CDRL Sequence No. A13016-002

Raytheon

Integrated Terminal Weather System (ITWS)

Final Development Test and Evaluation (DT&E) Software Engineering Environment (SEE) Acceptance Test Plan

Contract No. DTFA01-97-C-00006

14 August 1998

Prepared for

Federal Aviation Administration
Weather Processing Branch
Room PL 100
400 7th Street, SW
Washington, DC 20590

_____
Program Manager

_____
Test Program Manager

Prepared by

Raytheon Systems Company
Transportation Systems
528 Boston Post Road
Sudbury, MA 01776-3375

_____
Quality Assurance Manager

This page intentionally left blank

INTEGRATED TERMINAL WEATHER SYSTEM (ITWS)

FINAL DEVELOPMENT TEST AND EVALUATION (DT&E)

SOFTWARE ENGINEERING ENVIRONMENT (SEE) ACCEPTANCE TEST PLAN

Contract Number DTFA01-97-C-00006

CDRL Number A13016-002

14 August 1998

Prepared for

Federal Aviation Administration
Weather Processing Branch
Room PL 100
400 7th Street, SW
Washington, DC 20590

Prepared by

Raytheon Systems Company
Transportation Systems
528 Boston Post Road
Sudbury, MA 01776-3375

This page intentionally left blank

REVISION AUTHORIZATION RECORD

Revision	*Date*	*Authorization*	*Approved by*
-	6/10/98		J. H. Graffam Jr.
A	8/14/98		J. H. Graffam Jr.

PAGE STATUS RECORD

Unless otherwise noted, all pages are rev -					
Page	***Revision***	***Date***	***Page***	***Revision***	***Date***

EXECUTIVE SUMMARY

The Software Engineering Environment (SEE) Acceptance Test Plan describes the planning required to accomplish both Factory Acceptance Test (FAT) and Site Acceptance Test (SAT) for the SEE. This plan also demonstrates Raytheon's SEE Acceptance Test strategy for meeting the SEE related requirements of the ITWS program.

The ITWS Development Test and Evaluation (DT&E) SEE Acceptance Test Plan comprises FAT and SAT qualification testing. The FAT determines compliance with SEE requirements. The SAT verifies that the SEE continues to meet the requirements in the "as installed" condition at the Program Support Facility (PSF). All testing is conducted in accordance with (IAW) Government approved test plans and test procedures. These tests may be witnessed by authorized Government representatives, at their discretion.

For FAT testing, the SEE is set up in its deliverable configuration in the ITWS laboratory located in Sudbury, MA. For SAT testing, the SEE is set up as delivered to the PSF in Oklahoma City, OK. Prior to the conduct of FAT, as a risk mitigation, the Test and Evaluation Group (TEG) conducts a preliminary test to verify that the SEE is ready for formal test and to validate the test procedures.

This page intentionally left blank

TABLE OF CONTENTS

LIST OF FIGURES

Figure/Title **Page**

LIST OF TABLES

Table/Title **Page**

1 INTRODUCTION

1.1 Purpose

The purpose of this test plan is to validate requirements assigned to this phase of testing required by the System/Segment Specification (SSS), Contract Data Requirements List (CDRL) A12006, for the Integrated Terminal Weather System (ITWS), DTFA01-97-C-00006. This test plan documents Raytheon's test strategy in order to meet the requirements of the contract.

1.2 Scope

This Software Engineering Environment (SEE) Acceptance Test Plan describes the plans for acceptance test of the SEE. The test environment and resource requirements for testing the SEE are included. The requirements allocated to the SEE are validated during Factory Acceptance Test (FAT) and Site Acceptance Test (SAT) with the SEE configured as a complete system. Please note that while this document builds upon previously delivered test documentation, any information or data presented in this document that conflicts with said documentation is intended to supercede the older documentation. Schedules are provided as part of the ITWS Program Schedule (CDRL A11007).

The SEE FAT is performed at Raytheon's ITWS Test Facility located in Sudbury, MA, and is followed by SEE SAT, performed at the Program Support Facility (PSF), Oklahoma City, OK.

1.3 Document Organization

The SEE Acceptance Test Plan is prepared in accordance with CDRL A13016, Data Item Description (DID) UDI-T-FAA-117A and FAA-STD-024, Appendix VII.

Specifically, this document contains the following sections:

Section 1 Introduction

This section defines the scope of this document and how it relates to the overall ITWS test effort.

Section 2 Reference Documents

All documents that are referenced in this plan are included in this section with the appropriate date and revision number.

Section 3 System Description

A functional overview of the system and associated interfaces is provided in this section.

Section 4	Test Program Management This section provides the appropriate references to the Master Test Plan (MTP) and lists the program milestones.
Section 5	Test Configuration Management This section provides the appropriate references to the MTP.
Section 6	Discrepancy Reporting and Corrective Action This section defines the methodology used to report discrepancies and to provide corrective action.
Section 7	Notes This section provides any general information that aids in the understanding of this document.
Appendix A	Test Definitions This appendix lists the test definitions and the subtests used to describe the individual test events.
Appendix B	Discrepancy Reporting Directive This appendix provides the instructions for completing the Discrepancy Report (DR) form.
Appendix C	System Requirements Allocation Matrix (SRAM) This appendix provides the allocation of requirements to individual test events for qualification.
Appendix D	Test Breakout Matrices (TBMs) This appendix provides the allocation of requirements to subtests within each test event.

1.3.1 Document Tailoring

The section title “Test Descriptions” in Appendix A has been renamed “Test Definitions” for consistency with other test documentation.

Execution time (under the Test Definitions Section in Appendix A) has been tailored out. Estimating test execution time during the planning stage is premature. Detailed test scheduling is provided as part of the Test Readiness Review (TRR).

The individual TBMs associated with the Test Definitions in Appendix A are consolidated and provided in Appendix D to improve the readability of the document and provide consistency with other test documentation.

The "Special Conditions" section in Appendix A has been renamed to "Special Test Requirements" for consistency with other test documents.

The Test Equipment section under Test Definitions is tailored out. The information normally contained in this section is integrated into the Special Test Requirements section.

The Tasks/Activities section under Test Definitions is tailored out. The information normally contained in this section is integrated into the Test Approach section.

The Discrepancy Reporting and Corrective Action instructions of Section 6 are provided in Appendix B to improve the readability of the document.

1.4 Safety Considerations

Software Safety reviews all test documentation associated with the verification of safety related requirements to ensure adequate test coverage and overall requirements compliance.

This page intentionally left blank

2 REFERENCE DOCUMENTS

The following documents, of the exact issue called out in this document, form a part of this document to the extent specified herein. If an exact issue is not called out in this document, then the issue contained in the contract forms a part of this document to the extent specified herein. In the event of conflict between the following documents and this document, the order of precedence, from highest to lowest, is: Statement Of Work (SOW), FAA-E-2900A, System/Segment Specification (SSS), and then all others.

2.1 Government Documents

2.1.1 FAA SOW

DFTFA01-97-C-00006	FAA ITWS SOW

2.1.2 FAA Specifications

FAA-E-2900A 7 April 1998	Integrated Terminal Weather System (ITWS)

2.1.3 FAA Standards

FAA-STD-024B	Content and Format Requirements for the Preparation of Test and Evaluation Documentation

2.1.4 Data Item Description

UDI-T-FAA-117A 29 December 1995	Test Plan

2.2 Non-Government Documents

2.2.1 Raytheon Documents

CDRL A11007	ITWS Program Schedule
CDRL A12033-001 10 June 1998	Computer Resources Integrated Support Document

CDRL A12006-004B CGG707253, Rev D 02 June 1998	System/Segment Specification
CDRL A12007-003A CGG708506, Rev B 02 June 1998	System/Segment Design Document
CDRL A12011-002 CGG708517, Rev A 24 October 1997	Requirements Traceability Matrix (RTM)
CDRL A12014-003 CGG708520, Preliminary 20 February 1998	Interface Design Document (IDD)
CDRL A13001-003 G708563, Rev B 29 August 1997	Master Test Plan

3 SYSTEM DESCRIPTION

3.1 System

The SEE (Figure 3-1) is used to develop, debug, store, and disseminate ITWS software. (Note: SD = Situational Display, GB = Gigabyte, DAT = Digital Audio Tape, DLT = Digital Linear Tape) There is an instance of the Test Tool associated with the SEE. Temporary interconnection with the ITWS Mission Equipment is provided at the PSF to facilitate installation and test of software revisions.

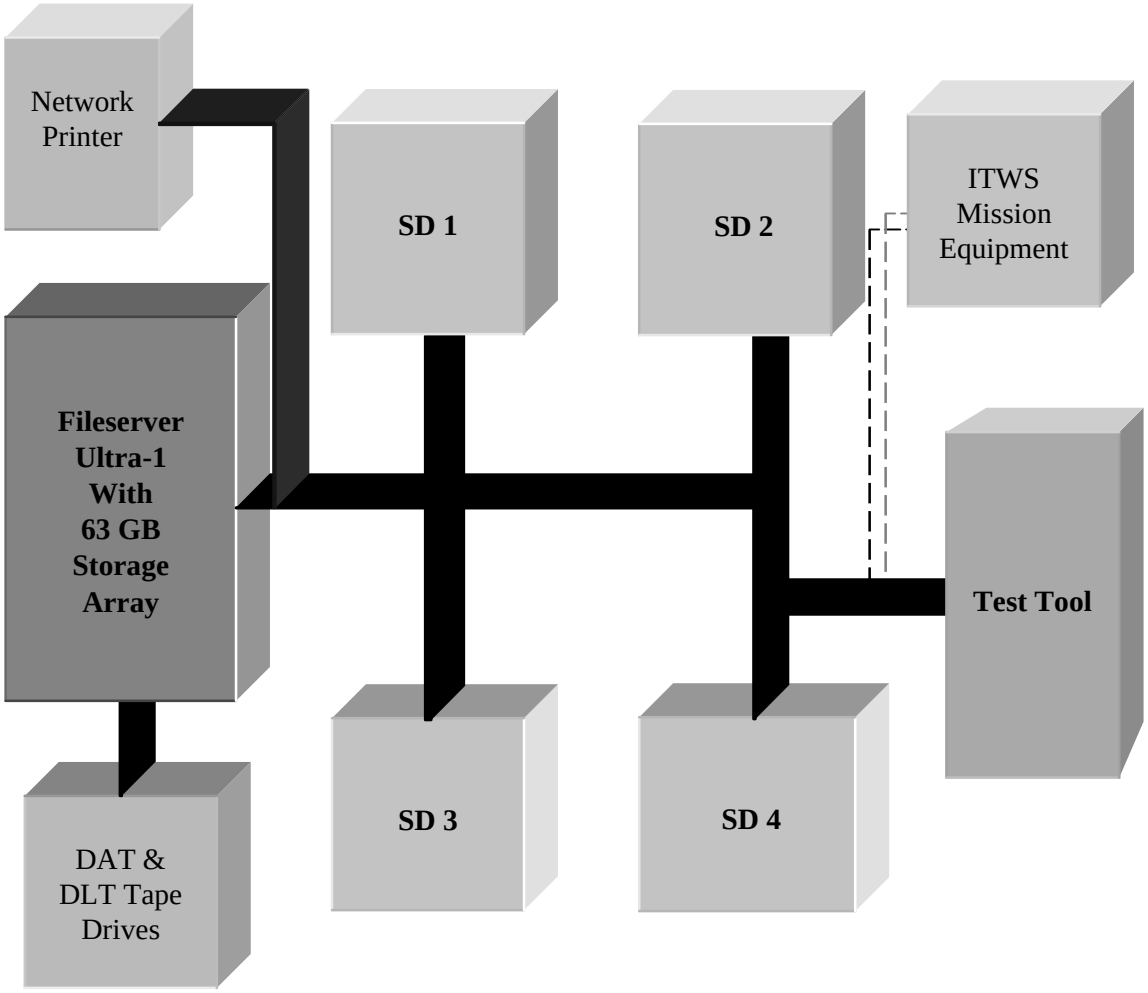

Figure 3-1 Software Engineering Environment

The SEE is configured and equipped to provide the capability to develop, debug, and test ITWS software. Recorded input data is provided by the Test Tool and operational ITWS sites. The connection between the SEE and the ITWS Mission Equipment is shown as a broken line to denote the fact that ITWS Mission Equipment is occasionally connected to the SEE in order to facilitate transfer of data and software. The Test Tool is used as a supplementary compile and

build engine as well as providing interface emulation services during development, test and debug.

3.1.1 Relationship Between ITWS Subsystems, HWCIs and CSCIs

Figure 3-2 shows the relationship between the ITWS subsystems, the Hardware Configuration Items (HWCIs) and the Computer Software Configuration Items (CSCIs) (Note: NFU = National Weather Service (NWS) Filter Unit). The SEE is comprised of HWCI-5 and multiple instances of HWCI-3, and supports development of all CSCIs. Summary descriptions of HWCI-3 and HWCI-5 are given below.

a) HWCI-3, the Situation Display Hardware (SDH), provides the Central Processing Unit (CPU), memory, disk, peripherals, and a color display. The SEE uses the SDH, excluding the Uninterruptible Power Supply (UPS). The SEE SDH is used as a software development workstation.

b) HWCI-5, the Software Engineering Hardware (SEH), supports ITWS software development and maintenance by providing CPU, memory, disk, and peripheral resources which are required, but are not present, in other PSF equipment (ITWS Mission Equipment and Test Tool).

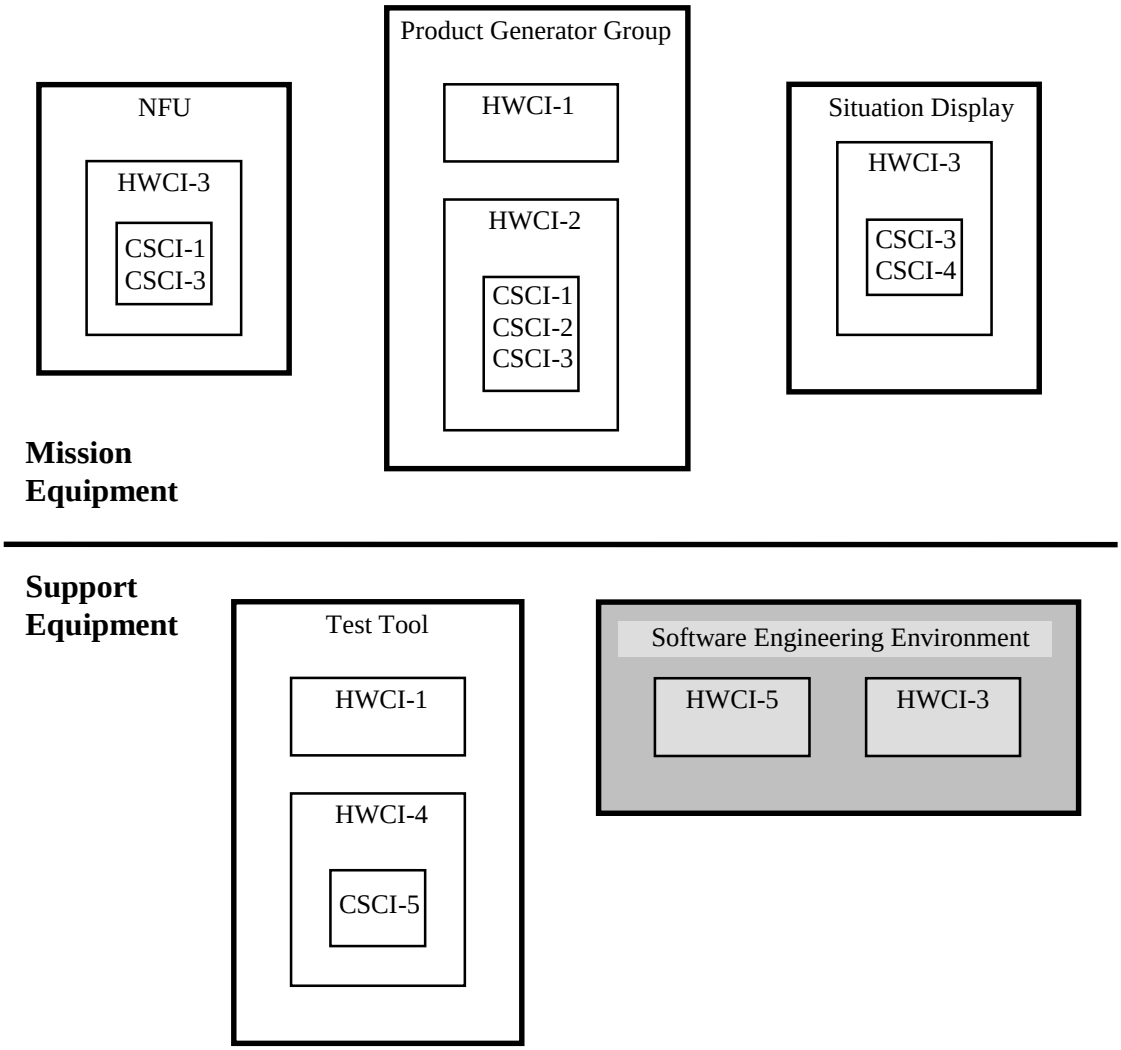

Figure 3-2 Relationship Between ITWS Subsystems, HWCIs, and CSCIs

3.2 Interfaces

The SEE has no permanent external interfaces. Magnetic tape storage (within HWCI-5) is used to import and export ITWS operational software for development and maintenance. When the SEE is configured with a connection to the ITWS Mission Equipment, operational software and data may be transferred directly.

This page intentionally left blank

4 TEST PROGRAM MANAGEMENT

4.1 Management

Refer to paragraph 5.1 of the MTP, CDRL A13001.

4.2 Schedule

Refer to the ITWS Program Schedule, CDRL A11007, for the detailed integrated schedule. Major contract milestones pertinent to the test program are listed in Table 4-1 Program Milestones.

Table 4-1 Program Milestones

Milestone	Date
System Requirements Review	4/10/97
System Design Review	7/9/97
Software Specification Review	10/10/97
Preliminary Design Review	2/11/98
Critical Design Review	7/10/98
DT&E FQT TRR, Build 3	5/31/99
DT&E FAT TRR	8/24/99
FCA/PCA	5/1/00
DT&E SAT TRR	11/12/99
Last FA SAT Complete	1/21/00
OT&E	7/29/00
SEE FCA/PCA	1/8/02

DT&E	Development Test and Evaluation
FAT	Factory Acceptance Test
FCA	Functional Configuration Audit
FQT	Formal Qualification Test
OT&E	Operational Test and Evaluation
PCA	Physical Configuration Audit

This page intentionally left blank

5 TEST CONFIGURATION MANAGEMENT

Refer to paragraph 5.5 of the MTP, CDRL A13001.

This page intentionally left blank

6 DISCREPANCY REPORTING AND CORRECTIVE ACTION

The ITWS Discrepancy Reporting System (DRS) uses a relational database trouble-reporting tool. The system provides form-based entry, query, and modification functions as well as automatic e-mail notification of pertinent activity. This is the identical tool used by the development group during software development. The report contents are consistent with the information required in a Discrepancy Report (DR) (CDRL A13002) and includes fields such as: the statement of the problem, problem resolution, and an unique identifier.

When a problem is encountered during Preliminary Qualification Test (PQT) or formal test, a DR is entered into the DRS and is reviewed by the Software Configuration Control Board (SCCB) and/or Software Review Board (SRB) to be assigned for resolution. After a fix is available, a new version of the software is built to verify the fix. The DR is then reassigned to the test group for formal verification. A list of DRs applicable to a test event is provided in the test report.

Refer to Appendix B for the detailed procedure for submitting a DR.

This page intentionally left blank

.

7 NOTES

7.1 Glossary

The following is a glossary of frequently used acronyms.

ADAS	AWOS Data Acquisition System
ADNS	ARINC Data Network Services
AGFS	Aviation Gridded Forecast System
ALERT	Alert Generation
ANSI	American National Standards Institute
AP	Anomalous Propagation
AP-ED	Anomalous Propagation Editor
AR	Action Request
ARENA	Area Noted for Attention
ARINC	Aeronautical Radio Incorporated
ARP	Airport Reference Point
ARTCC	Air Route Traffic Control Center
ASCII	American Standard Code for Information Interchange
ASIS	ASR-9 Serial Interface System
ASOS	Automated Surface Observing System
ASR-9	Airport Surveillance Radar Model 9
ATC	Air Traffic Control
ATCT	Airport Traffic Control Tower
ATIS	Automatic Terminal Information Service
ATN	Aeronautical Telecommunications Network
AWOS	Automated Weather Observing System
bps	Bits per Second
CAI	Contractor's Acceptance Inspection
CAS	Commercially Available Software
CC	Communication Concentrator
CCB	Configuration Control Board
CCH	Communications Concentrator Hardware
CCITT	International Telephone and Telegraph Consultants Committee
CD	Common Digitizer
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CF	Contrast Factor
CHI	Computer-Human Interface
CI	Configuration Item
CMXR	Composite Maximum Reflectivity

COTS	Commercial Off-the-Shelf
CPU	Central Processing Unit
CRAM	CSCI Requirements Allocation Matrix
CRISD	Computer Resources Integrated Support Document
CRS	Communications and Recording Software
CSC	Computer Software Component
CSCI	Computer Software Configuration Item
CSU	Computer Software Unit
CTM	Coordinate Mappings
CWSU	Center Weather Service Unit
DAT	Digital Audio Tape
DBZ	Decibels of Reflectivity
DFU	Display Functional Unit
DID	Data Item Description
DLP-2A	Data Link Processor - Model 2A
DLT	Digital Linear Tape
DLU	Data Link User
DOT	Department of Transportation
DQT	Design Qualification Test
DR	Discrepancy Report
DRS	Discrepancy Reporting System
DT&E	Development Test and Evaluation
DVT	Discrepancy Validation Test
ETI	Estimated Time to Impact
FA	First Article
FAA	Federal Aviation Administration
FAAAC	FAA Aeronautical Center
FAATC	FAA Technical Center
FAATSAT	FAA Telecommunications Satellite
FAT	Factory Acceptance Test
FBWTG	FAA Bulk Weather Telecommunications Gateway
FCA	Functional Configuration Audit
FCC	Federal Communication Commission
FQT	Formal Qualification Test
GB	Gigabyte
GF	Gust Front
GFE	Government Furnished Equipment
GFI	Government Furnished Information
GFTMAP	Gust Front TRACON Map
GFUP	Gust Front Update

GRIB	Gridded Binary
GSD	Geographic Situation Display
GUI	Graphical User Interface
GWI	Graphics Window Interaction
HDLC	High Speed Data Link Control
HGG	Hazard Grid Generator
HWCI	Hardware Configuration Item
Hz	Hertz (i.e., Cycles per Second)
IAW	In Accordance With
ICD	Interface Control Document
IDD	Interface Design Document
IPT	Integrated Product Team
IR	Investigation Request
IRD	Interface Requirements Document
ISO	International Standards Organization
ITRR	Internal Test Readiness Review
ITWS	Integrated Terminal Weather System
IV&V	Independent Verification and Validation
Kg/m^2	Kilograms per Square Meter
Km	Kilometer
LAPB	Link Access Protocol Balanced
Lb/ft^2	Pounds per Square Foot
LGHT	Lightning Data Processor
LLWAS	Low Level Wind Shear Alert System
LR	Long Range
LRID	Logical Recording Identifier
LRU	Line Replaceable Unit
MB	Microburst
MBA	Microburst Alert
MBD	Microburst Detect
MBMerge	Microburst Prediction and Detection Merging
MBPredict	Microburst Predict
MBTMAP	Microburst Terminal Radar Approach Control (TRACON) Map
MCS	Master Control Station
MDCRS	Meteorological Data Collection and Reporting System
MDT	Maintenance Data Terminal
MIGFA	Machine Intelligent Gust Front Algorithm

MIT/LL	Massachusetts Institute of Technology/Lincoln Laboratory
MPS	Maintenance Processor Subsystem
MTBF	Mean-Time-Between-Failures
MTP	Master Test Plan
MTTR	Mean-Time-to-Repair
N/A	Not Applicable
NADIN-II	National Airspace Data Interchange Network-II
NAS	National Airspace System
NDI	Non-Developmental Item
NDS	Non-Development Software
NEXRAD	Next Generation Weather Radar
NFU	NWS Filter Unit
NIMS	NAS Infrastructure Management System
NLDN	National Lightning Detection Network
NMC	National Meteorological Center
nmi	Nautical Mile
NOS	Network Operating System
NWS	National Weather Service
OS	Operating System
OSF	Operational Support Facility
OSHA	Office of Safety Health Administration
OT&E	Operational Test and Evaluation
PA	Product Assurance
PAT&E	Production Acceptance Test and Evaluation
PC	Personal Computer
PCA	Physical Configuration Audit
PD	Product Display
PED	Product Evaluation Demonstration
PG	Product Generator
PGH	Product Generator Hardware
PGS	Product Generator Software
PIP	Precipitation Impact and Projection
PIDS	Prime Item Development Specification
PIREP	Pilot Report
PMO	Program Management Office
POSIX	Portable Operating Systems Interface to UNIX
PQT	Preliminary Qualification Test
PSF	Program Support Facility
PSN	Packet Switching Network

P-Spec	Process Specification
PUP	Principal User Processor
RAM	Random Access Memory
RBDT	Ribbon Display Terminal
RD	Ribbon Display
RDA	Radar Data Acquisition Group
RDS	Raw Data Selection
RFP	Request for Proposal
REFDOCS	Reference Documents
RGB	Red/Green/Blue
RGG	Rule Grid Generator
RMMS	Remote Maintenance Monitoring System
RMS	Remote Monitoring Subsystem
RPG	Radar Products Generator
RSCIP	Remote Surveillance and Communication Interface Processor
RTM	Requirements Traceability Matrix
RUC	Rapid Update Cycle
SAL	Storm Analysis Library
SAT	Site Acceptance Test
SCCB	Software Configuration Control Board
SCI	Storm Cell Information
SCN	Specification Change Notice
SCS	System Control Software
SCSI	Small Computer Systems Interface
SD	Situation Display
SDF	Software Development Folder
SDG	Software Development Group
SDH	Situation Display Hardware
SDP	Software Development Plan
SDS	Situation Display Software
SEE	Software Engineering Environment
SEH	Software Engineering Hardware
SEM	System Event Messages
SEP	Storm Extrapolated Position
SGS	Scenario Generator Software
SIT	Site Installation Team
SM	Storm Motion
SNR	Signal to Noise Ratio
SOW	Statement of Work
SQA	Software Quality Assurance
SQC	Software Qualification Criteria
SQE	Software Quality Engineer
SRAM	System Requirements Allocation Matrix

SRB	Software Review Board
SRS	Software Requirements Specification
STD	Software Test Description
STMSEP	Storm Motion/Storm Extrapolated Position
STP	Software Test Plan
STR	Software Trouble Report
S/SDD	System/Segment Design Document
SSS	System/Segment Specification
SVC	Switch Virtual Circuit
TBD	To Be Determined
TBM	Test Breakout Matrix
TBS	To Be Supplied
TCP/IP	Telecommunications Control Protocol/Internet Protocol
TCSW	Test Case Source Window
TDWR	Terminal Doppler Weather Radar
TE	Transmission Equipment
TEG	Test and Evaluation Group
Test ID	Test Identifier
TMU	Traffic Management Unit
TNDA	Tornado Alert
TPS	Test Planning Sheet
TRACON	Terminal Radar Approach Control Facility
TRR	Test Readiness Review
TT	Test Tool
TTH	Test Tool Hardware
TTS	Test Tool Software
TWIND	Terminal Winds
TWIP	Terminal Weather Information for Pilots
TWx_graph	Terminal Weather Character Graphics
TWx_text	Terminal Weather Text
UPS	Uninterruptible Power Supply
UTC	Universal Coordinated Time
VIL	Vertically Integrated Liquid Water
VRTM	Verification Requirements Traceability Matrix
WSA	Wind Shear Alert
WSTR	Web Software Trouble Report
XCT	Cross Correlation Tracker

10 APPENDIX A - TEST DEFINITIONS

The tests identified in this section are broken out IAW the MTP (CDRL A13001). These tests are listed in Table 10-1. The further breakout of subtests is described at the beginning of each FAT and SAT subsection.

Table 10-1 Test Event Matrix

Test ID	Name	Phase	Subphase	Formal	Plan
G1	Software Engineering Environment FAT	DT&E	FAT	FSEE	A13016
G2	Software Engineering Environment SAT	DT&E	SAT	FSEE	A13016

Key

Test ID: Unique alphanumeric designation to identify a test event.
Name: Name of the test event.
Phase: Major test phase — DT&E - Development Test and Evaluation
PAT&E - Production Acceptance Test and Evaluation
OT&E - Operational Test and Evaluation
Subphase: Grouping of tests within a Phase — DQT, FQT, FAT, SAT, Contractor's Acceptance Inspection (CAI), or SEE.
Formal: Indicates the formalism and type of test event as follows:
F - Formal
SEE - S/W Engineering Environment
Plan: Identifies the CDRL of the associated test plan for each test event.

10.1 Software Engineering Environment FAT (G1)

The purpose of the SEE FAT is to verify that the deliverable SEE is capable of providing the capability for developing, testing, and executing software for both operational and off-line analysis of the ITWS. ITWS operational software is run using Test Tool and ITWS Mission Equipment.

10.1.1 General Test Requirements

An operational SEE, including all applicable Commercial Off-the-Shelf (COTS) and Non-Development Software (NDS), memory, storage and peripherals, is required for the conduct of SEE FAT and SAT. ITWS Mission Equipment is required for portions of the test conduct.

Testing shows that the SEE, together with the ITWS Mission Equipment, provides the following functionalities and the capacity to support these functionalities for multiple users:

a. Text editing and printing
b. Program assembly and compilation of operational software
c. Program linking and loading
d. Running standard data analysis utilities
e. Running functional programs with recorded and/or simulated inputs
f. Software design, test, and debug

These objectives are met by the SEE software development resources as outlined in the Computer Resources Integrated Support Document (CRISD), CDRL A12033, including interactive video displays, peripheral and communications devices, and control software. Running operational software requires the availability of the ITWS Mission Equipment.

10.1.2 Test Definitions

This section is divided into the following subtests to identify the details of the SEE FAT:

Subtest 1. Hardware Identification
Subtest 2. Operational Image Generation
Subtest 3. Operational Software Functional Verification
Subtest 4. Software Maintenance

10.1.2.1 Subtest 1 – Hardware Identification

TEST OBJECTIVE:

The Hardware Identification Subtest ensures that the hardware configuration required to support the allocated functionalities is available and operational at the SEE.

TEST APPROACH:

This test verifies by inspection that the SEE provides all peripheral devices and control software necessary to perform the required ITWS software development and maintenance activities. This test verifies that the SEE provides a minimum of four interactive video terminals. It is functionally verified that the SEE, as delivered, supports a minimum of one printer capable of producing hard copy of text files. It is shown through analysis that the mass storage is sufficient to store all SEE applications (as outlined in the CRISD, CDRL A123033), operating system software, twenty-four hours of recorded input data, and twenty-four hours of archive data.

SPECIAL TEST REQUIREMENTS:

None

DATA REDUCTION/ANALYSIS:

COTS documentation and the SEE hardware resources are analyzed to verify that the SEE is expandable to accommodate twice the number of peripherals.

ASSUMPTIONS AND CONSTRAINTS:

None

LOCATION:

Raytheon, ITWS Test Facility, Sudbury, MA

PERSONNEL:

It is anticipated that this subtest requires at least one (1) Test and Evaluation Group (TEG) member, one (1) SQA representative, and one (1) customer witness.

10.1.2.2 Subtest 2 – Operational Image Generation

TEST OBJECTIVE:

The Operational Image Generation Subtest verifies that the appropriate development software (compilers, linkers, etc.) of the proper version are available and operate in conjunction to produce valid ITWS operational software.

TEST APPROACH:

A “known good” version of the operational software source code is obtained from the configuration management system, assembled/compiled, and linked. The newly built image is compared to a “known good” build image using checksum and/or object file analysis in order to ensure that the build process is repeatable.

SPECIAL TEST REQUIREMENTS:

None

DATA REDUCTION/ANALYSIS:

The newly built image is compared to a “known good” image to verify that an image can successfully be recreated on the SEE.

ASSUMPTIONS AND CONSTRAINTS:

Standard UNIX tools are used for the image analysis/comparison portion of this subtest.

LOCATION:

Raytheon, ITWS Test Facility, Sudbury, MA

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness. In addition, support personnel from the Software Development Group (SDG) are used to ensure the integrity of the ITWS software is preserved during and/or restored following the intrusive nature of this subtest.

10.1.2.3 Subtest 3 – Operational Software Functional Verification

TEST OBJECTIVE:

The Operational Software Functional Verification Subtest demonstrates that the SEE supports the development, debug and evaluation of the ITWS operational software. This subtest verifies that the SEE supports multiple ITWS site configurations during the production, test, and deployment of existing and new operational software builds.

TEST APPROACH:

Using recorded and/or simulated inputs, it is demonstrated that for both simple (Kansas City) and complex (Dulles) configurations, the SEE supports installation of operational software to both networked and deliverable ITWS Mission Equipment configurations. This subtest demonstrates that, via use of the Test Tool and appropriate assembled test cases, both simple and complex configurations are capable of being evaluated using the SEE. Testing includes both the installation and the deployment of operational software builds from/to both networked and fielded systems.

SPECIAL TEST REQUIREMENTS:

Simple and complex site software configurations and corresponding recorded/simulated input data (assembled test cases) are required for this subtest.

DATA REDUCTION/ANALYSIS:

None

ASSUMPTIONS AND CONSTRAINTS:

Full functional verification of the ITWS operational software is not planned, as the operational software has been qualified during FQT. A Test Tool is assumed to be available (from the FAA PSF or Capital Equipment) for use during this subtest.

LOCATION:

Raytheon, ITWS Test Facility, Sudbury, MA

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness. In addition, support personnel from the SDG are used to ensure the integrity of the ITWS software is preserved during and/or restored following the intrusive nature of this subtest.

10.1.2.4 Subtest 4 – Software Maintenance

TEST OBJECTIVE:

The objective of the Software Maintenance Subtest is to verify that the SEE includes the support equipment necessary to design, develop, test, maintain, analyze and debug ITWS functional software, with the exclusion of COTS firmware. Criteria for determining the successful completion of this subtest include demonstration and analysis of the capability for multiple simultaneous users to develop and maintain the ITWS software in a timely and effective manner using the software tools and hardware resources provided.

TEST APPROACH:

The ITWS operational software source code is retrieved from the configuration management tool. Minor, but visually apparent modifications (for example, button labels) are made to the code using the configuration management tool. The effects of these modifications are shown by exercising the modified and rebuilt code using the Test Tool. A representative unit level test is re-run to demonstrate debugging capability at a low level, including the activation and deactivation of Logical Recording Identifiers (LRIDs) separate from unit test. Archive data retrieval is performed to demonstrate the capability to analyze data recorded in the field.

A build of the operational software is compiled at the SEE under the nominal condition of four simultaneous users performing software development activities. The average compilation rate is verified by timing the duration of the build and dividing the duration into the total lines of source code. The build is repeated with a unit test repeatedly running in the background to verify that simultaneous operation of computationally intensive activities results in graceful degradation of performance. As ITWS does not employ firmware other than COTS firmware, no firmware maintenance or support equipment is required.

SPECIAL TEST REQUIREMENTS:

None

DATA REDUCTION/ANALYSIS:

Compilation rate and performance degradation measurements are analyzed for adherence to requirements.

ASSUMPTIONS AND CONSTRAINTS:

The Sun C and C++ compilers are assumed to provide compilation rate statistics and standard UNIX tools are used to obtain necessary performance statistics. A Test Tool is assumed to be available (from the FAA PSF or Capital Equipment) for use during this subtest.

LOCATION:

Raytheon, ITWS Test Facility, Sudbury, MA

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness. Testing of simultaneous operations is accomplished via test scripts and/or augmenting the personnel with additional TEG members or qualified support personnel, up to a maximum of four (4). In addition, support personnel from the SDG are used to ensure the integrity of the ITWS software is preserved during and/or restored following the intrusive nature of this subtest.

10.2 Software Engineering Environment SAT (G2)

The SEE SAT is performed on site to verify continued compliance with the requirements qualified during SEE FAT. Therefore, the requirements allocated to SEE SAT are not intended to be re-tested in their entirety.

10.2.1 General Test Requirements

An operational SEE, including all applicable COTS and NDS software, memory, storage and peripherals is required for the conduct of SEE SAT.

Testing shows that the SEE provides the following functionalities and the capacity to support the following functionalities for up to four concurrent users:

a. Text editing and printing
b. Program assembly and compilation of operational software
c. Program linking and loading
d. Running standard data analysis utilities
e. Running functional programs with recorded and/or simulated inputs
f. Software design, test, and debug

Running operational software requires the availability of the ITWS Mission Equipment. These objectives are met by the SEE software development resources as outlined in the Computer Resources Integrated Support Document (CRISD) CDRL A12033, including interactive video displays, peripheral and communications devices, and control software. Running operational software requires the availability of the ITWS Mission Equipment.

10.2.2 Test Definitions

This section is divided into the following subtests to identify the details of the SEE SAT.

Subtest 1. Hardware Identification
Subtest 2. Operational Image Generation
Subtest 3. Operational Software Functional Verification
Subtest 4. Software Maintenance

10.2.2.1 Subtest 1 – Hardware Identification

TEST OBJECTIVE:

The Hardware Identification Subtest ensures that the hardware configuration required to support the allocated functionalities is available and operational at the SEE.

TEST APPROACH:

It is verified by inspection that the SEE provides the required memory, storage, computational and input/output capacity for software development and test activities. This test verifies that the SEE provides all peripheral devices and control software necessary to perform the required ITWS software development and maintenance activities. This test verifies that the SEE provides a minimum of four interactive video terminals, which are used for the control and operation of all SEE functions and applications. It is functionally verified that the SEE, as delivered, supports a minimum of one printer. Mass storage is shown to be sufficient to store all SEE applications (as outlined in the CRISD, CDRL A123033), operating system software, twenty-four hours of recorded input data, and twenty-four hours of archive data.

SPECIAL TEST REQUIREMENTS:

None

DATA REDUCTION/ANALYSIS:

COTS documentation and the SEE hardware resources are analyzed to verify that the SEE is expandable to accommodate twice the number of peripherals.

ASSUMPTIONS AND CONSTRAINTS:

None

LOCATION:

FAA PSF, Oklahoma City, OK.

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness.

10.2.2.2 Subtest 2 – Operational Image Generation

TEST OBJECTIVE:

The Operational Image Generation Subtest verifies that the appropriate development software (compilers, linkers, etc.) of the proper version are available and operate in conjunction to produce valid ITWS operational software.

TEST APPROACH:

A “known good” version of the operational software source code is obtained from the configuration management system, assembled/compiled, and linked. This version is identical to the version which is rebuilt during FAT. The newly built image is compared to a “known good” build image using checksum and/or object file analysis.

SPECIAL TEST REQUIREMENTS:

None

DATA REDUCTION/ANALYSIS:

The newly built image is compared to a “known good” image to verify that an image can successfully be recreated on the SEE.

ASSUMPTIONS AND CONSTRAINTS:

Standard UNIX tools are used for the image analysis/comparison portion of the subtest. The “known good” build source and image are identical to those used at FAT.

LOCATION:

FAA PSF, Oklahoma City, OK.

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness. In addition, support personnel from the SDG are used to ensure the integrity of the ITWS software is preserved during and/or restored following the intrusive nature of this subtest.

10.2.2.3 Subtest 3 – Operational Software Functional Verification

TEST OBJECTIVE:

The Operational Software Functional Verification Subtest demonstrates that the SEE supports the execution of the ITWS operational software for development, debug, and evaluation purposes.

TEST APPROACH:

Using recorded and/or simulated inputs, it is demonstrated that for both simple (Kansas City/Houston) and complex (Dulles) configurations, the SEE supports uploads from and downloads to the ITWS Mission Equipment. This subtest demonstrates that, via use of the Test Tool and appropriate assembled test cases, both simple and complex configurations are capable of being evaluated using the SEE.

SPECIAL TEST REQUIREMENTS:

Simple and complex site software configurations and corresponding recorded/simulated input data (assembled test cases) are required for this subtest.

DATA REDUCTION/ANALYSIS:

None

ASSUMPTIONS AND CONSTRAINTS:

Full functional verification of the ITWS operational software is not planned, as the operational software has been qualified during FAT. The Test Tool is used to drive the subtest.

LOCATION:

FAA PSF, Oklahoma City, OK.

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness. In addition, support personnel from the SDG are used to ensure the integrity of the ITWS software is preserved during and/or restored following the intrusive nature of this subtest.

10.2.2.4 Subtest 4 – Software Maintenance

TEST OBJECTIVE:

The objective of the Software Maintenance Subtest is to verify that the SEE includes the support equipment necessary to design, develop, test, maintain, analyze and debug ITWS functional software, with the exclusion of COTS firmware. Criteria for determining the successful completion of this subtest include demonstration and analysis of the capability for multiple simultaneous users to develop and maintain the ITWS operational software in a timely and effective manner using the software tools and hardware resources provided.

TEST APPROACH:

The ITWS operational software source code is retrieved from the configuration management tool. Minor, but visually apparent modifications are made to the ITWS code using the configuration management tool. The effects of these modifications (for example, button label) are shown by exercising the modified code using the Test Tool. A representative unit level test is re-run to demonstrate debugging capability at a low level. LRIDs are activated and deactivated as a debugging exercise, separate from the unit level test.

A build of the operational software is compiled at the SEE under the nominal condition of four simultaneous users performing software development activities. The average compilation rate is verified by timing the duration of the build and dividing the duration into the total lines of source code. The build is repeated with a unit test repeatedly running in the background to verify that simultaneous operation of computationally intensive activities results in graceful degradation of performance. As ITWS does not employ firmware other than COTS firmware, no firmware maintenance or support equipment is required.

SPECIAL TEST REQUIREMENTS:

None

DATA REDUCTION/ANALYSIS:

Compilation rate and performance degradation measurements are analyzed for adherence to requirements.

ASSUMPTIONS AND CONSTRAINTS:

The Sun C and C++ compilers are assumed to provide compilation rate statistics and standard UNIX tools are used to obtain necessary performance statistics.

LOCATION:

FAA PSF, Oklahoma City, OK.

PERSONNEL:

It is anticipated that this subtest requires at least one (1) TEG member, one (1) SQA representative, and one (1) customer witness. Testing of simultaneous operations is accomplished via test scripts and/or augmenting the personnel with additional TEG members or qualified support personnel, up to a maximum of four (4). In addition, support personnel from the SDG are used to ensure the integrity of the ITWS software is preserved during and/or restored following the intrusive nature of this subtest.

This page intentionally left blank

20 APPENDIX B – DISCREPANCY REPORTING DIRECTIVE

Appendix B contains a directive issued by Raytheon and contains the instructions for completing Raytheon's intranet based Discrepancy Reporting System (DRS) form. The form associated with this directive is shown in Figure 20-1. The DRS utilizes WEB STR (or WSTR) for entering and administering Discrepancy Reports (DRs). The instructions for completing the DRs can also be found at http://itws.res.ray.com/test/DRS_Directive.html on Raytheon's intranet.

20.1 Scope

This directive details the methodology to be employed for entering and administering Discrepancy Reports (DRs) in the Discrepancy Reporting System (DRS).

20.2 Overview

Statement of Work (SOW) paragraph C.3.1.3.1.3 requires that a DRS be utilized by the test program to report problems encountered during formal test activities.

The DRS utilizes Web STR (or WSTR) which is accessible via the Raytheon intranet at http://wwwres2.msd.ray.com/fastcgi/Tools/WSTR-1.00/WSTR.fcgi. This web-based tool is used to enter problems that are classified into one of three categories: IRs (Investigation Requests), STRs (Software Trouble Reports), and ARs (Action Requests). An AR is a request for a particular action that does not affect the deliverable software. An IR is a problem that affects the current project requirements. An STR is used to track software problems and improvements to the software system that are within the general scope and requirements of the system.

Rather than introduce redundancy by opening a separate database only for DRs (as noted in the Master Test Plan [MTP]), the DRS utilizes the same ITWS project database used during the requirements and software development phases of the program. This allows any given DR to be reassigned for resolution to members of the software development and systems engineering groups.

Anyone can enter a WSTR, provided that they are a member of ITWS and have a WSTR account. If you do not have one already, refer to http://itws.res.ray.com/webstr.html.

This directive is NOT intended to be used as a user's guide to WSTR. Rather it specifies how the WSTR system is to be used for the entry and administration of DRs. Please refer to http://wwwres2.msd.ray.com/Tools/WSTR/userman.pdf for complete instructions in the operation of WSTR.

20.3 Discrepancy Reporting System Requirements

A DR shall be entered to report relevant discrepancies encountered during formal test activities, including Preliminary Qualification Tests with Software Quality Assurance (SQA). Issues encountered during procedure development and dry-runs are outside the scope of the DRS and this document.

20.3.1 Entry of Discrepancy Reports

All DRs shall be entered with the following fields completed: Title, Submitter, Class, CSCI, Build Against, Phase Detected, Error Category, Miscellaneous, Site, REFDOCS, and Problem. All other fields are to be considered optional.

20.3.1.1 Title

All titles shall begin with "DR – " and follow with a descriptive DR title. As examples, "DR – Failed Subtest 7" is too vague and unacceptable while "DR – Response Time for Monitored Parameters Report Exceeds 4 Seconds" is acceptable.

20.3.1.2 Submitter

The Submitter for a given DR shall nominally be the Test Conductor or alternatively the Test Leader as defined in the MTP. This field defaults to the current WSTR user and may require editing.

20.3.1.3 Class

The Class field is a classification of the problem report. The Class shall be designated as "STR" when the problem relates to the functional performance of the software within the general scope and requirements of the system. Otherwise, the Class shall be designated as "AR." The second example cited in 20.3.1.1 is an example of a DR classified as an STR. A DR classified as an AR may be authored to report a failure of the procedure to verify compliance with requirements although the software itself is compliant. Hardware related issues are also classified as ARs.

STR and AR classified DRs may be reclassified as any valid WSTR classification (STR, AR, or IR) by the DR Administrator, as appropriate upon review and subsequent activity.

Note that this field defaults to "STR."

20.3.1.4 CSCI

When the DR relates to only one Configuration Item (CI), the CSCI field shall correspond to the given CSCI or HWCI. When the DR relates to more than one CI, the CSCI field shall be "all_csci" and the affected CIs noted in the Problem field.

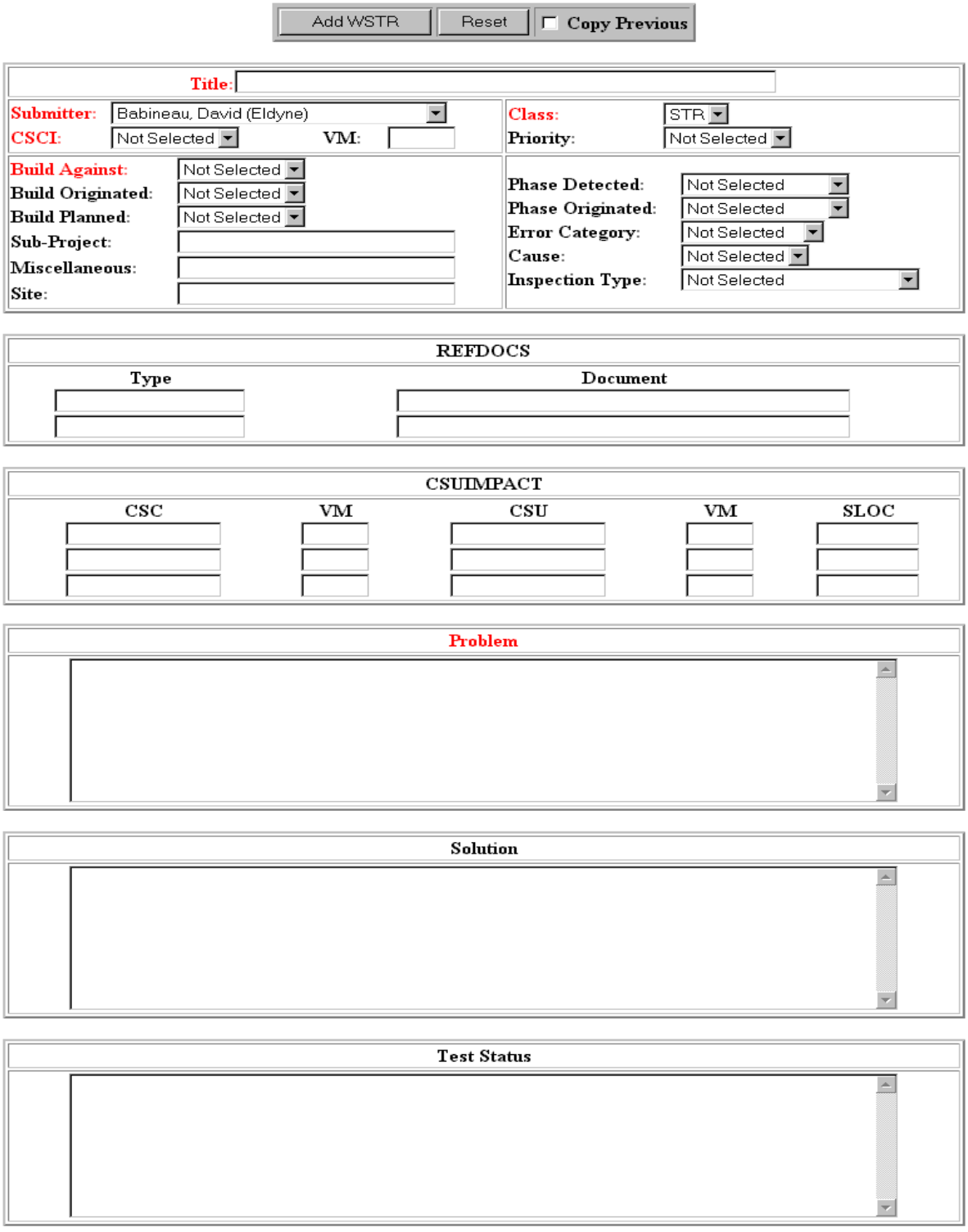

Figure 20-1 Discrepancy Reporting Form

20.3.1.5 Build Against

When the build under test is available as a valid selection, the Build Against field shall correspond to the software build used during the associated test conduct where the DR was observed. Otherwise, the Build Against field shall be "N/A" and the build shall be annotated in the Problem field.

20.3.1.6 Phase Detected

The Phase Detected field shall be "Validation."

20.3.1.7 Error Category

The Error Category field shall be "Test."

20.3.1.8 Miscellaneous

The Miscellaneous field shall be formatted as follows: {*TestID*}-{*Subtest*}-{*Step*}. For example, a DR authored during Subtest 4, Step 32 of the CSCI-2, Build 3 FQT would have a miscellaneous field of "BA1C2B3-4-32."

20.3.1.9 Site

The Site field shall be formatted as follows: {*3-digit Location*}-{*Configuration*} where:

- 3-digit Location *is restricted to SUD (Sudbury), ACY (Atlantic City), IAH (Houston), MCI (Kansas City), or PSF (Oklahoma City)*
- *Configuration* indicates the site adaptation data, hardware and communications setup for the test and follows the same convention used in the naming of software site adaptation data sets. For example, the site adaptation data for Houston may use the convention of IAH, the airport location code. Other site adaptation data sets may be developed for use only during formal test and do not correspond to real airports. The Worst Case Site #1 may have a name of WC1, for example.

Note that both items in this field may be the same. For example, during the FAA (Federal Aviation Administration) Technical Center (FAATC) Site Acceptance Test (SAT), it is likely that the Site field will contain "ACY-ACY." During FQT, however, "SUD-WC1" or "SUD-MCI" are more likely, for example.

20.3.1.9.1 REFDOCS

The procedure document, date, and version shall be noted in a REFDOCS field. When the DR has been classified as an STR, all associated specification documents (SSS, SRS, PIDS, etc.), dates, and versions shall be noted in a REFDOCS field.

Note that only two REFDOCS fields may be filled in during the entry of a DR. Additional entries may be made by the user by updating the DR after the DR has been submitted.

20.3.1.10 Problem

The Problem field shall contain, at a minimum, the nature of the discrepancy, the actions leading up to the discrepancy, the expected result(s), the observed result(s), and a listing of all requirements affected by the problem. When the Build Against field does not contain the pertinent build as valid selection, the build shall be noted in the Problem field. When multiple CIs are affected by the DR, each shall be cited in the Problem field. Requirements shall be listed with source document, paragraph number, shall number, and the TEG sequence number.

This field should be descriptive to the point that an assignee can accurately reproduce and research the problem. In general, there is no such thing as too much information in the Problem field.

20.3.2 Administering the Discrepancy Reporting System

The DRS shall be administered by the ITWS Test Manager. The responsibilities of administering the DRS are as follows:

- Reviews new DRs for proper formatting in accordance with section 20.3.1 above and proper classification
- Assigns AR classified DRs to a TEG member
- Assigns STR classified DRs to the ITWS Software Review Board (SRB) for assignment to a developer
- Assigns DRs reclassified as IRs to the ITWS Software Configuration Control Board (SCCB) for assignment to a systems engineer
- Attends the SRB and SCCB to ensure timely resolution of DRs
- Routes DRs that affect multiple disciplines to the appropriate personnel in an efficient manner
- Establishes DR priorities and due dates
- Ensures adequate problem resolution, verification and closure of the DR

20.3.3 DR Resolution

All actions accomplished to resolve the DR shall be documented in the Solution field.

20.3.4 Verification of a DR

Once the DR has been incorporated, the TEG shall verify the DR using a formally submitted Discrepancy Validation Test (DVT) procedure with an SQA representative. Upon completion of a DVT for a given DR (and any associated regression testing), the TEG shall annotate the Test Status field with a summary of the test conduct, the DVT procedure version and date, and an update as to the status of the requirements originally affected by the DR.

Once properly witnessed and annotated, the DR is assigned to SQA to annotate concurrence and readiness for retest.

20.3.5 Closure of a DR

All DRs shall be witnessed by customer and SQA representatives using customer approved DVT procedures. Upon completion of formal DVT conduct, the TEG shall annotate the results in the Test Status field. This may simply be an indication that the same results were observed as when the DVT was performed for SQA.

DRs and associated DVT results shall be reviewed during Post Test Briefings (PTBs). Closure of a DR shall require customer approval. Prior to closure, the TEG shall indicate the associated Test Report in the Test Status field.

30 APPENDIX C - SYSTEM REQUIREMENTS ALLOCATION MATRIX (SRAM)

30.1 SRAM Description

The SRAM identifies the system requirements, SSS, and IRD to be verified in the test program. Each requirement is given a unique sequence number for ease of identification.

The columns of the SRAM are described as follows:

1. **SeqNo** - A unique alphanumeric sequence has been assigned to each IRD and SSS shall requirement. Sequence number prefixes are described by Table 30-1.

Table 30-1 SeqNo Cross Reference

SeqNo Prefix	Requirement Document Name	Document Number
SSS	System/Segment Specification	A12006
SRS	Software Requirement Specification	A12010
ADS	IRD – ADAS/ITWS	NAS-IR-25082514
TD1	IRD – TDWR RPG/ITWS PG	NAS-IR-31052514 Part 1
TD2	IRD – TDWR RPG/ITWS SD	NAS-IR-31052514 Part 2
NAD	IRD – NADIN X.25 Packet Mode Users	NAS-IR-43020001
ART	IRD – ARTCC/ITWS	NAS-IR-61002514
ATC	IRD – ATCT/TRACON ITWS	NAS-IR-63002514
ASR	IRD – ASR-9/ITWS	NAS-IR-34032514
RMM	IRD – RMMS/RMS	NAS-MD-793A
PID	Prime Item Development Specification	A12008-001 through 005

2. **ParaNum** - The paragraph number associated with each individual requirement. Paragraph numbers followed by numbers in parentheses indicate more than one shall is contained in the paragraph

3. **Gist -** The requirement's text, an abridged version, or descriptive comment is included to assist the reviewer.

4. **Test ID -** Identifies the test phase sub-level in which each requirement is verified. Individual test procedures are conducted as part of a test phase sub-level with a unique ID number. The first letter of the TestID indicates a particular phase or subphase: A for DT&E DQT, B for DT&E FQT, C for DT&E FAT, D for DT&E SAT, E for PAT&E FAT, F for PAT&E SAT, and G for SEE related test events. Beyond the first letter, the intention is to indicate common groupings via the usage of other letters and numbers. For example, for CSCI specific FQT events, the TestIDs are of the form BA1CxBy, where x is the CSCI number and y is the build number. These test ID numbers remain consistent throughout all test events. Reference Table 30-2 Test Event Matrix.

Table 30-2 Test Event Matrix

Test ID	Name	Phase	Subphase	Formal	Plan
A1C1B2	CSCI-1, Build 2 Formal Unit Tests	DT&E	DQT	ISw	A13003
A1C1B3	CSCI-1, Build 3 Formal Unit Tests	DT&E	DQT	ISw	A13003
A1C2B3	CSCI-2, Build 3 Formal Unit Tests	DT&E	DQT	ISw	A13003
A1C3B2	CSCI-3, Build 2 Formal Unit Tests	DT&E	DQT	ISw	A13003
A1C3B3	CSCI-3, Build 3 Formal Unit Tests	DT&E	DQT	ISw	A13003
A1C4B3	CSCI-4, Build 3 Formal Unit Tests	DT&E	DQT	ISw	A13003
A1C5B2	CSCI-5, Build 2 Formal Unit Tests	DT&E	DQT	ISw	A13003
A2B3	Build 3 Algorithm SQC	DT&E	DQT	ISw	A13003
BA1C1B2	CSCI-1, Build 2 FQT	DT&E	FQT	FSw	A13003
BA1C1B3	CSCI-1, Build 3 FQT	DT&E	FQT	FSw	A13003
BA1C2B3	CSCI-2, Build 3 FQT	DT&E	FQT	FSw	A13003
BA1C3B2	CSCI-3, Build 2 FQT	DT&E	FQT	FSw	A13003
BA1C3B3	CSCI-3, Build 3 FQT	DT&E	FQT	FSw	A13003
BA1C4B3	CSCI-4, Build 3 FQT	DT&E	FQT	FSw	A13003
BA1C5B2	CSCI-5, Build 2 FQT	DT&E	FQT	FSw	A13003
BA2B3	Build 3 Algorithm Verification Tests	DT&E	FQT	FSw	A13003
BA3	Worst Case Weather Demonstration	DT&E	FQT	FSw	A13003
BB1	DT&E FAT Procedure Validation	DT&E	FQT	IV	A13007
BB2	Regression Test	DT&E	FQT	FR	A13003
CA1	NEXRAD Interface Certification Test	DT&E	FAT	Ce	A13007
CA2	NADIN-II Interface Certification Test	DT&E	FAT	Ce	A13007
CB1	COTS Validation Test	DT&E	FAT	FV	A13007
CB2	Design Validation Test	DT&E	FAT	FV	A13007
CC	Reliability Demonstration (Start)	DT&E	FAT	FCh	A12049
CD1	Interface Operability Test	DT&E	FAT	FSys	A13007
CD2	End-to-End Processing Demonstration	DT&E	FAT	FSys	A13007
CD3	System Control and Monitoring Test	DT&E	FAT	FSys	A13007
CE1	DT&E SAT Procedure Validation	DT&E	FAT	IV	A13010
CE2	PAT&E FAT Procedure Validation	DT&E	FAT	IV	A13013
CF	72 Hour Operability Test	DT&E	FAT	F72	A13007
DA1A	Interface Operatility Test - Simulated Interfaces	DT&E	SAT	FSys	A13010
DA1B	Interface Operatility Test - Live Interfaces	DT&E	SAT	FSys	A13010
DA2	End-to-End Processing Demonstration	DT&E	SAT	FSys	A13010
DA3	System Control and Monitoring Test	DT&E	SAT	FSys	A13010
DB1	FAATC Reliability Demonstration (End)	DT&E	SAT	FCh	A12049
DB2	FAATC Maintainability Demonstration	DT&E	SAT	FCh	A12056
DC	PAT&E SAT Procedure Validation	DT&E	SAT	IV	A13013
DD	72 Hour Operability Test	DT&E	SAT	F72	A13010
DE	Contractors Acceptance Inspection	DT&E	CAI		A15003
EA1	Interface Operability Test	PAT&E	FAT	FSys	A13013
EA2	End-to-End Processing Demonstration	PAT&E	FAT	FSys	A13013
EA3	System Control and Monitoring Test	PAT&E	FAT	FSys	A13013
EB	72 Hour Operability Test	PAT&E	FAT	F72	A13013
FA1A	Interface Operatility Test - Simulated Interfaces	PAT&E	SAT	FSys	A13013
FA1B	Interface Operatility Test - Live Interfaces	PAT&E	SAT	FSys	A13013
FA2	End-to-End Processing Demonstration	PAT&E	SAT	FSys	A13013
FA3	System Control and Monitoring Test	PAT&E	SAT	FSys	A13013
FB	72 Hour Operability Test	PAT&E	SAT	F72	A13013
FC	Contractors Acceptance Inspection	PAT&E	CAI		B40003
G1	Software Engineering Environment FAT	DT&E	FAT	FSEE	A13016
G2	Software Engineering Environment SAT	DT&E	SAT	FSEE	A13016
H	OT&E Support	OT&E			

— Key —

Test ID
Unique alphanumeric designation to identify a test event.

Name
Name of the test event.

Phase
Major test phase — Development Test and Evaluation (DT&E), Production Acceptance Test and Evaluation (PAT&E), or Operational Test and Evaluation (OT&E)

Subphase
Grouping of tests within a Phase — DQT, FQT, FAT, SAT, Contractor's Acceptance Inspection (CAI), or SEE.

Formal
Indicates the formalism and type of test event as follows:

Ce	Certification
Ch	Characteristics
I	Informal
F	Formal
R	Regression
SEE	S/W Engineering Environment
Sw	Software
Sys	System Operation
V	Validation
72	72 Hour Op. Test

Plan
Identifies the CDRL of the associated test plan for each test event.

5. **Test Method** - Indicates the method by which each requirement is verified. Valid test methods include:

A - Analysis

Hardware analysis encompasses any or all of the following:

a. Engineering analysis is usually an engineering design function involving study, calculation, or modeling of the known or potential failure modes, and reaction or interactions of the specified parts, materials, and the design configuration with the known function, performance and/or probable effects of the operational environments. This analysis is normally used to verify margin when it is not desirable to test to failure.

b. Similarity analysis is a method applied to end items or components that are identical in design and manufacturing processes to end items or components that have been previously qualified to equivalent or more stringent requirements. This method can be applied to COTS equipment for the same manufacturer's models based upon the manufacturer's engineering specifications. For COTS equipment, use of manufacturer's published materials which contain test conformance information relating to materials construction, commercial reliability test data, internal performance capabilities and environmental conditions (heat, power consumption, etc.) are acceptable for qualification testing.

c. Validation of records analysis is a method of verification wherein manufacturing records are used to verify compliance of concealed construction features or processes of manufacturing (e.g., vendor items). This method is applied to COTS equipment for the same manufacturer's models based upon the manufacturer's engineering specifications.

Software analysis encompasses the processing of accumulated results and conclusions to provide proof that the verification of requirements has been accomplished. The analytical results may be composed of interpretation of existing information or derived from lower level tests, demonstrations, analyses, or examinations.

Certain IRD requirements are annotated by a lower case 'a' in the VRTM. This indicates that an analysis has shown that the requirements are protocol in nature and/or are at an extremely low level and not suited for direct software or system level verification. Instead, these requirements are satisfied through the process of demonstrating 100% compliance of higher order system and software requirements. Formal test and evaluation is not performed on the IRD items and they are not allocated to further test efforts.

D - Demonstration

The demonstration verification method is used to indicate a general “pass/fail” condition.

Hardware demonstrations determine the qualitative characteristics of end item or component properties by observation. Demonstration will not require special test equipment or instruction to vary characteristics such as operational performance, human engineering features, service, access features, and transportability.

Software demonstrations determine compliance with requirements (e.g., the proper response at a site as a result of a specified interrogation or command to be processed by the program) through observation of functional operation. Demonstration is used primarily for activities where data gathering is not appropriate, such as display image verification.

I - Inspection

Inspection of hardware includes verifying physical characteristics to determine compliance with requirements without the use of special laboratory equipment, procedures, items, or services. Inspection will verify workmanship, physical condition, construction features, and document/drawing compliance. For COTS hardware, use of manufacturer’s published materials which contain test conformance information pertaining to commercial reliability test data, Office of Safety Health Administration (OSHA) regulations, military standards or Federal Communications Commission (FCC) licensing are acceptable for qualification testing.

Software inspection is a nondestructive examination that includes review of software source and object listings to verify compliance with software documentation, requirements, and coding standards, as well as verification of the implementation of required algorithms. Software inspection will not incorporate use of laboratory equipment or procedures to determine compliance with requirements.

T - Test

Hardware testing measures hardware performance during or after the controlled application of functional and/or environmental stimuli. Measurements require the use of laboratory equipment, procedures, items, and/or services.

Software testing employs technical means, including evaluation of functional operation by use of special equipment or instrumentation and/or simulation techniques, to determine compliance of the system with requirements. Data derived from software testing is reduced for analysis of software/system performance under the test specified.

X – Not Applicable

Formal test and evaluation is not required.

6. **Test Effort** - Identifies a performance standard that each test phase sub-level must achieve. It is provided to assist the reviewer in determining at what point in time during test and evaluation a requirement is considered fully qualified. These performance standards are defined as follows:

K - partial verification. Complete verification will occur in conjunction with other tests, demonstrations, inspections, and/or analyses.

Q - full verification. The verification of the requirement is completed during associated tests, demonstrations, inspections, or analyses.

N - functional verification. A reverification of the basic requirement at a higher level after full verification has been completed. Usually will occur at SAT or follow on production verifications.

This page intentionally left blank.

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ADS-0003.0	3.1.1	Connectivity between ADAS and ITWS as shown in figure.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
ADS-0005.0	3.1.3(1)	Interface provides the capability to transfer message data between ADAS and ITWS processes.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ADS-0005.1	3.1.3(2)	Two way operation is provided.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ADS-0005.1	3.1.3(2)	Two way operation is provided.	EA1	D	N
			FA1A	D	N
			FA1B	D	N
ADS-0019.0	3.2.1.3.5	Information flow shall be as identified in Table 3-II: Product Dissemination-Lightning Position and Tracking Data, Product Dissemination-ASOS/AWOS Sensor Data	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ADS-0020.0	3.2.1.3.6	Frequency of transmission as identified in Table 3-I.	CD1	T	Q
ADS-0021.0	3.2.1.3.7	There shall not be any responses associated with this interface.	CD1	A,T	Q
ADS-0033.0	3.2.2.7(1)	Physical layer requirements IAW para. 3.2.7 of NAS-IR-43020001	CD1	D	Q
ADS-0033.1	3.2.2.7(2)	Physical medium comply win NAS-IC-25084302 (para. 3.2.7).	CD1	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ADS-0034.0	3.2.2.7.1	ITWS Physical layer requirements IAW NAS-IR-43020001 with specification NAS-IC-25084302.	CD1	D	Q
ADS-0036.0	3.3	Physical Requirements IAW para. 3.3 of NAS-IR-43020001 for NADIN PSN to ITWS.	CD1	I	Q
			DA1A	I	N
			EA1	I	N
			FA1A	I	N
ART-0004.0	3.2.1	The ITWS equipment width and depth shall not exceed the dimensions as referenced in Table 3-1 and as shown in Figure 3-II.	CB1	I	K
			CD1	I	Q
ART-0006.0	3.2.1.1.1	The location and number of SDs shall be determined on a site-by-site basis as determined by the site installation drawings.	DA1A	I	Q
			FA1A	I	N
ART-0007.0	3.2.1.2	The ITWS equipment components weights and quantities shall be in accordance with Table 3-1	CB1	A	Q
ART-0010.0	3.2.2.a	All ITWS equipment located at ARTCC shall connect to the essential power load system to balance essential power systems.	DA1A	D	K
			DA1B	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ART-0010.0	3.2.2.a	All ITWS equipment located at ARTCC shall connect to the essential power load system to balance essential power systems.	FA1A	D	N
			FA1B	D	N
ART-0011.0	3.2.2.b	Electrical work shall be IAW FAA-C-1217	DA1A	I	Q
			DA1B	I	N
			FA1A	I	N
			FA1B	I	N
ART-0012.0	3.2.2.c	ITWS components electrical characteristics shall be IAW Electrical Requirements Table 3-II	CB1	I,A	Q
ART-0013.0	3.2.2.1	ITWS power system connectors shall be specified in site facility installation drawings.	DA1A	I	Q
			FA1A	I	N
ART-0015.0	3.2.2.2.a	Cabling shall consist of power and grounding wiring/cabling and comply with FAA-C-1217.	DA1A	I	K
			DA1B	I	Q
			FA1A	I	N
			FA1B	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ART-0016.0	3.2.2.2.b	Interface wiring and cable routing as specified in site installation drawings.	DA1A	I	Q
			FA1A	I	N
ART-0017.0	3.2.2.2.c	All cables shall be plenum rated and rated as cabling in raceways IAW NFPA-70.	CB2	A	K
			DA1A	I	Q
			FA1A	I	N
ART-0018.0	3.2.2.2.1	Cable Distribution shall be specified in site installation drawings.	DA1A	I	Q
			FA1A	I	N
ART-0019.0	3.2.2.2.1a	Interconnection cables/connectors shall be compatible with underfloor and overhead facilities.	CB2	I	Q
			DA1A	I	N
			FA1A	I	N
ART-0020.0	3.2.2.2.1b	Equipment accessibility	CB2	A	K
			DA1A	I	Q
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ART-0022.0	3.2.2.3.a	Shielding between equipment power and signals shall be installed IAW FAA-STD-019 and FAA-STD-020.	CB2	I	Q
			DA1A	I	N
			FA1A	I	N
ART-0023.0	3.2.2.3.b	Proper Installation shall be validated by means of a demo between ITWS and collocated equipment without interference.	DA2	D	Q
			FB	D	N
ART-0025.0	3.2.2.4.a	Furnish multi-point chassis ground and the AC power ground at all installations.	DA1A	I	Q
			FA1A	I	N
ART-0026.0	3.2.2.4.b	Grounding IAW FAA-STD-019 and FAA-STD-020 standards.	DA1A	I	Q
			FA1A	I	N
ART-0027.0	3.2.2.4.c	Interface between ITWS and ARTCC grounding circuits for power and signals indicated on site installation drawings.	DA1A	I	Q
			FA1A	I	N
ART-0028.0	3.2.2.4.1	All cables meet grounding requirements specified in FAA-STD-020.	DA1A	I	Q
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ART-0029.0	3.2.2.4.2	ARTCC shall provide centrally located grounding to prevent loops and impedance-coupling paths.	DA1A	I	Q
			FA1A	I	N
ART-0031.0	3.2.2.4.3.a	ITWS shall utilize isolated independent signal/power grounds.	CB2	I	K
			DA1A	I	Q
ART-0032.0	3.2.2.4.3.b	Ground system design shall ensure maintenance personnel safety.	CB2	A	Q
ART-0033.0	3.2.2.4.3.c	Design compatible with that of other equipment which interfaces with this system.	CB2	A	Q
ART-0034.0	3.2.2.4.3.d	Electrical system design IAW FAA-G-2100.	CB2	A	Q
ART-0035.0	3.2.2.4.4	ARTCC AC power furnished IAW FAA Order 6950.2.	DA1A	T	Q
ART-0037.0	3.2.2.5.a	ITWS shall operate from essential primary power	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ART-0037.0	3.2.2.5.a	ITWS shall operate from essential primary power	FA1A	D	N
			FA1B	D	N
ART-0038.0	3.2.2.5.b	Primary power source provided from single phase AC IAW FAA-G-2100.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
ART-0039.0	3.2.2.5.c	Design center voltages shall be 115 VAC single phase and 208 VAC three phase at 60 Hz.	CB2	A	Q
ART-0041.0	3.2.2.6.a	The facility to provide electrostatic discharge protection IAW FAA-STD-019.	DA1A	I	Q
			FA1A	I	N
ART-0042.0	3.2.2.6.b	ITWS equipment implemented in compliance with FAA-G-2100 Section 3.3.2.3.	CB1	A	K
			CD1	A	Q
ART-0044.0	3.2.3.1	ITWS to operate within the parameters in Table 3-III.	CB1	A	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ART-0044.0	3.2.3.1	ITWS to operate within the parameters in Table 3-III.	CD1	A	Q
ART-0045.0	3.2.3.2	ITWS equipment heat transfer will not exceed the values in Table 3-III.	CB1	A	K
			CD1	A	Q
ART-0046.0	3.2.3.2.1	ARTCC operational environment, 32 to 104 degrees F, 5% to 95% relative humidity, 0 to 10K ft. altitude. operating conditions.	DA1A	A	Q
			FA1A	A	N
ART-0047.0	3.2.3.3	The facility to provide 75 degrees +/- 5 degrees, humidity of 50% +10% -15%.	DA1A	A	Q
			FA1A	A	N
ASR-0002.0	3.1	Provide for transmission of weather data in CD format from ASR-9 and ITWS	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0003.0	3.1.a	Functional interface exist when ITWS/ASR-9 in same facility as in Figure 3.1a.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0004.0	3.1.b	Functional interface exist when ITWS/ASR-9 not in same facility as in Figure 3.1b.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0005.0	3.1.c	ITWS/ASR-9 interface IAW NAS-IR-44010001, Rev. A.	CD1	D,A	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0006.0	3.1.1.a	Interface consist of one primary weather data channel and one spare data channel.	CD1	I	Q
			DA1B	I	N
			EA1	I	N
			FA1B	I	N
ASR-0007.0	3.1.1.b	Capable of receiving weather map data over primary or spare channel.	CD1	D,A	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0010.0	3.1.1.e	Serial digital data channel conforms to EIA-422 electrical standard.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0011.0	3.1.1.f	Physical interface connector conforms to EIA-530 mechanical standard.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
ASR-0012.0	3.1.1.g	Serial interface connector will be 50-pin connector per ASIS drawings.	DA1B	I	Q
			FA1B	I	N
ASR-0019.0	3.2.b	Weather data to support the weather display requirements outlined in FAA-E-2704B, para.3.12.7.6.	CD1	A	Q
			DA1A	A	N
			EA1	A	N
			FA1A	A	N
ASR-0020.0	3.2.1	ASR-9 and ITWS APs processes weather data.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0020.0	3.2.1	ASR-9 and ITWS APs processes weather data.	FA1A	D	N
			FA1B	D	N
ASR-0022.0	3.2.1.2	ASR-9 provides a NAS essential undirectional message transfer to ITWS.	CD1	A,T	Q
ASR-0027.0	3.2.1.3.2	Interface supports the transfer of message type listed in Table 3-I.	CD1	D	Q
ASR-0031.0	3.2.1.3.6	Information flow from ASR-9 spare weather ports to ITWS IAW Table 3-III.	CD1	T	Q
ASR-0035.0	3.2.1.3.8	No messages or acknowledgements responses from ITWS.	CD1	T	Q
ASR-0042.0	3.2.1.5.a	ITWS checks all messages for proper type, length, and content.	CD1	A,T	Q
ASR-0043.0	3.2.1.5.b	ITWS checks each field for odd parity.	CD1	A,T	Q
ASR-0044.0	3.2.1.5.c	ITWS discards all fields with even parity and improper type of length.	CD1	A,T	Q
ASR-0058.0	3.2.2.6.2.a	Continuously monitor the primary & backup weather data channels.	CD1	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0059.0	3.2.2.6.2.a(1)	ITWS continuously monitors for loss of weather map data if not received for 30 seconds.	CD1	T	Q
ASR-0060.0	3.2.2.6.2.a(2)	ITWS continuously monitors for loss of data channel if idle character not received for 12 to 15 seconds	CD1	T	Q
ASR-0061.0	3.2.2.6.2.b	Upon detecting a loss of synchronization attempt to receive weather data on spare channel.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0062.0	3.2.2.6.2.c(1)	Upon detecting a loss of synchronization on primary and spare channels determine interface has occurred	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0063.0	3.2.2.6.2.c(2)	Upon detecting a loss of synchronization on primary and spare channels go into standby mode.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0064.0	3.2.2.6.2.c(3)	Upon detecting a loss of synchronization on primary and spare channels determine recovery of primary of spare channel.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0065.0	3.2.2.6.2.c(4)	Upon detecting a loss of synchronization on primary and spare channels reestablish synchronization.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0067.0	3.2.2.6.2.e	ITWS can operate with no ASR-9 without adverse impact.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0068.0	3.2.2.6.2.f	Upon recovery from a ASR-9 loss, ITWS allowed a minimum of 45 seconds for reception of the transmission of initial weather map data.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
ASR-0070.0	3.2.2.7.a	Interface connectors at ITWS conforms to EIA-530 standard as specified in para. 3.2.2.7.2	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0070.0	3.2.2.7.a	Interface connectors at ITWS conforms to EIA-530 standard as specified in para. 3.2.2.7.2	FA1A	I	N
			FA1B	I	N
ASR-0071.0	3.2.2.7.b	Interface connectors at ASR-9 end is 50-pin connector as specified in ASR-9 ASIS drawing.	DA1B	I	Q
			FA1B	I	N
ASR-0078.0	3.2.2.7.2.b	ITWS interchange circuits in accordance with table.	DA1A	I	Q
			FA1A	I	N
ASR-0081.0	3.2.2.7.4.a	Weather channel operates at 9.6 Kbps.	CD1	T	Q
ASR-0088.0	3.3.1.b	ITWS conforms to EIA-530	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
ASR-0093.0	3.3.1.1.b	ITWS connectors and pin assignment IAW EIA-530 and this document.	CD1	I	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0093.0	3.3.1.1.b	ITWS connectors and pin assignment IAW EIA-530 and this document.	DA1A	I	N
			EA1	I	N
			FA1A	I	N
ASR-0094.0	3.3.1.1.c	ITWS capable of interfacing to ASR-9 as specified in ASR-9 drawings.	DA1A	I	Q
			FA1A	I	N
ASR-0096.0	3.3.1.2.a	Interface cabling meets electrical currant capacity IAW FAA-G-2100f.	CD1	A	Q
ASR-0097.0	3.3.1.2.b	Cable is twisted pair with sufficient number of conductors to implement all necessary interface functions.	CD1	I	Q
			DA1A	I	N
			FA1A	I	N
ASR-0098.0	3.3.1.2.c	Cable lengths are consistent and adequate for each physical system configuration.	DA1A	I	Q
			FA1A	I	N
ASR-0099.0	3.3.1.3	Grounding IAW EIA-530	DA1A	I	Q
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ASR-0100.0	3.3.1.4	Provide jack screws at points of demarcation IAW FAA-G-2100f.	CD1	I	Q
			DA1A	I	N
			FA1A	I	N
ASR-0101.0	3.3.1.5(1)	Shielding and grounding per FAA-STD-020a requirements.	CD1	A	Q
			DA1A	I	N
			FA1A	I	N
ASR-0102.0	3.3.1.5(2)	Electromagnetic compatibility complies with FAA-G-2100f requirements.	DA1A	I	Q
			DA1B	I	N
			FA1A	I	N
			FA1B	I	N
ATC-0004.0	3.2.1	ITWS equipment width and depth shall not exceed the dimensions in Table 3-I.	CB1	I	K
			CD1	I	Q
			DA1A	I	N
			EA1	I	N
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ATC-0006.0	3.2.1.1.1	The location and number of SDs shall be determined on a site-by-site basis as determined by the site installation drawings.	DA1A	I	Q
			FA1A	I	N
ATC-0007.0	3.2.1.1.2	The processor shall be provided floor space which will be identified during site survey.	DA1A	I	Q
			FA1A	I	N
ATC-0009.0	3.2.1.1.3.a	Number of Racks and the amount of equipment determined on a site by site basis.	DA1A	I	Q
			FA1A	I	N
ATC-0010.0	3.2.1.1.3.b	Equipment is provided space either in existing racks or in new racks.	DA1A	I	Q
			FA1A	I	N
ATC-0011.0	3.2.1.2	The ITWS equipment components weight and quantities IAW Table 3-I.	CB1	A	Q
ATC-0014.0	3.2.2.a	All ITWS equipment located at ATCT/TRACON shall connect to the essential power load system to balance essential power systems.	DA1A	D	K
			DA1B	D	Q
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ATC-0015.0	3.2.2.b	Electrical work IAW FAA-C-1217.	DA1A	I	Q
			FA1B	I	N
ATC-0016.0	3.2.2.c	ITWS components electrical characteristics shall be IAW Electrical Requirements Table 3-II	CB1	A,I	Q
ATC-0017.0	3.2.2.1	Connectors provided by the ITWS for interfacing with ATCT/TRACON power systems as specified in the site facility drawings.	DA1A	I	K
			DA1B	I	Q
			FA1A	I	N
			FA1B	I	N
ATC-0019.0	3.2.2.2.a	ATCT/TRACON cabling consist of power wiring/cabling and ground wiring/cabling and comply with FAA-C-1217.	DA1A	I	Q
			FA1A	I	N
ATC-0020.0	3.2.2.2.b	Interface wiring and cable routing within the ATCT/TRACON as specified in site installation drawings.	DA1A	I	K
			DA1B	I	Q
			FA1A	I	N
			FA1B	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ATC-0021.0	3.2.2.2.c	All interconnecting cables shall be plenum rated and rated as cabling in raceways IAW NFPA-70.	DA1A	I	Q
			FA1A	I	N
ATC-0022.0	3.2.2.2.1	Cable distribution as specified in the site installation drawings.	DA1A	I	K
			DA1B	I	Q
			FA1A	I	N
			FA1B	I	N
ATC-0023.0	3.2.2.2.1.a	All ITWS interconnection cables and connectors shall be compatible with both underfloor and overhead distribution and cable runways provided by the ATCT/TRACON facility.	CD1	I,A	Q
			DA1A	I	N
			DA1B	I	N
			FA1A	I	N
			FA1B	I	N
ATC-0024.0	3.2.2.2.1.b	Equipment cabling permits accessibility to equipment for test maintenance and replacement.	CD1	A	Q
			DA1A	I	N
			DA1B	I	N
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ATC-0024.0	3.2.2.2.1.b	Equipment cabling permits accessibility to equipment for test maintenance and replacement.	FA1B	I	N
ATC-0026.0	3.2.2.3.a	Shielding between equipment power and signals shall be installed IAW FAA-STD-019 and FAA-STD-020.	CD1	I,A	Q
ATC-0027.0	3.2.2.3.b	Proper Installation shall be validated by means of a demo between ITWS and collocated equipment without interference.	DA1A	D	K
			DA1B	D	Q
			FA1A	D	N
			FA1B	D	N
ATC-0030.0	3.2.2.4.b	Grounding IAW FAA-STD-019 and FAA-STD-020.	DA1A	I	Q
			FA1A	I	N
ATC-0031.0	3.2.2.4.c	Interface between ITWS and ATCT/TRACON grounding circuits for power and signals indicated on site installation drawings.	DA1A	I	Q
			FA1A	I	N
ATC-0032.0	3.2.2.4.1	All cables meet grounding requirements specified in FAA-STD-020.	DA1A	I	Q
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ATC-0035.0	3.2.2.4.3.a	ITWS utilize isolated independent signal and power grounds.	DA1A	I	Q
			FA1A	I	N
ATC-0036.0	3.2.2.4.3.b	Grounding system design ensures maintenance personnel safety when operating or testing the system.	CD1	A	Q
ATC-0037.0	3.2.2.4.3.c	The design is compatible with that of other equipment which interfaces with this system.	CB2	A	Q
ATC-0038.0	3.2.2.4.3.d	ITWS electrical system is designed IAW FAA-F-2100.	CB2	A	Q
ATC-0041.0	3.2.2.5.a	ITWS system operates from an essential primary power source.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			FA1A	D	N
			FA1B	D	N
ATC-0042.0	3.2.2.5.b	Primary power source provided from single phase to three phase AC IAW FAA-G-2100.	DA1A	I	Q
			DA1B	I	N
			FA1A	I	N
			FA1B	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
ATC-0043.0	3.2.2.5.c	Design center voltages shall be 115 VAC single phase and 208 VAC three phase at 60 Hz.	CB2	A	Q
ATC-0046.0	3.2.2.6.b	ITWS meets the electromagnetic and electrostatic discharge requirements specified in FAA-STD-020 and FAA-G-2100.	CD1	A	Q
ATC-0048.0	3.2.3.1	ITWS operates within the parameters shown in Table 3-III and under all combinations of environmental conditions specified below:	CD1	A	Q
ATC-0049.0	3.2.3.2	ITWS heat transfer shall not exceed the values in Table 3-III.	CD1	A	Q
ATC-0052.0	3.2.3.3.a	ITWS equipment provided with space for ventilation and cooling such that FAA-G-2100 requirements are met.	DA1A	A	Q
			FA1A	A	N
NAD-0001.0	3.1(1)	Interface shall not degrade the availability and/or reliability of the user subsystem/equipment of the NADIN PSN.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
NAD-0002.0	3.2(1)	Architecture of NADIN as shown in Fig, 3-1	CD1	I	Q
NAD-0002.1	3.2(2)	Relationship of services provided and the lower 3 layers of the ISO 7498 model as shown in Fig. 3-2.	CD1	I	Q
NAD-0009.0	3.2.5.2(1)	Each user is assigned a unique network address(es).	CD1	I	Q
			DA1A	I	N
			EA1	I	N
			FA1A	I	N
NAD-0009.1	3.2.5.2(2)	Address is configured according to CCITT Recommendation X.121.	CD1	I	Q
			DA1A	I	N
			EA1	I	N
			FA1A	I	N
NAD-0009.2	3.2.5.2(3)	Max. address length is no more the 15 decimal digits.	CD1	I	Q
NAD-0012.0	3.2.5.5	NADIN interface supports all optional user facilities as in 6.0, CCITT Rec. X.25, Appendix A of IRD.	CD1	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
NAD-0013.0	3.2.5.6	Packet level parameters supported by NADIN is follows.	CD1	T	Q
NAD-0016.0	3.2.6.1	LAPB included in CCIT Rec. X.25 used as the link level protocol between DTE and DCE.	CD1	D	Q
NAD-0017.0	3.2.6.2(1)	NADIN interface support multi-link procedures to distribute packets across DTE/DCE.	CD1	D	Q
NAD-0019.0	3.2.6.4	Frame structure IAW section 2.2, CCITT Rec., X.25	CD1	I	Q
NAD-0020.0	3.2.6.5	Link parameters	CD1	I	Q
NAD-0021.0	3.2.7(1)	Physical layer IAW CCITT Rec. X.21, EIA-530 (Cat. I & II), and V.35.	CD1	D	Q
NAD-0021.1	3.2.7(2)	Physical layer provides for bit serial comm. signals with correct electrical and timing characteristics.	CD1	D	Q
NAD-0021.2	3.2.7(3)	Physical layer provides timing and control signals necessary to synchronize data signals to control equipment IAW 3.31 and 3.32 of IRD.	CD1	D	Q
NAD-0021.3	3.2.7(4)	NADIN supports line speeds of 2.4, 9.6, 19.2, 56 and 64 kb/s.	CD1	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
NAD-0023.0	3.3.1(1)	DTE connectors have male contacts and a female shell.	CD1	I	Q
			DA1A	I	N
			EA1	I	N
NAD-0023.1	3.3.1(2)	NADIN DCE have female contacts and a male shell as specified.	DA1A	I	Q
			FA1A	I	N
NAD-0024.0	3.3.1.1.1	Interface equipment performing similar or identical functions to be interchangeable.	CD1	A	Q
NAD-0025.0	3.3.1.1.2	Surface finish as specified in FAA-G-2100e.	CD1	I	Q
NAD-0026.0	3.3.1.1.3	Interface location oriented to enable unobstructed access for service.	CD1	D	K
			DA1A	D	Q
			EA1	D	N
			FA1A	D	N
NAD-0028.0	3.3.1.1.5(1)	Fasteners hardware as specified in FAA-G-2100.	CB1	I	K
			DA1A	I	Q
			EA1	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
NAD-0028.0	3.3.1.1.5(1)	Fasteners hardware as specified in FAA-G-2100.	FA1A	I	N
NAD-0028.1	3.3.1.1.5(2)	Requirements applied to COTS.	CB1	I	K
			DA1A	I	Q
			EA1	I	N
			FA1A	I	N
NAD-0028.2	3.3.1.1.5(3)	All connectors provided with captive jack screw fasteners for mating.	CB1	I	K
			DA1A	I	Q
			EA1	I	N
			FA1A	I	N
NAD-0029.0	3.3.1.1.6	Bonding as specified in FAA-STD-020.	CD1	D	K
			DA1A	D	Q
			EA1	D	N
			FA1A	D	N
NAD-0031.0	3.3.1.1.8	Materials as specified in FAA-G-2100.	CB1	I	Q
NAD-0032.0	3.3.1.1.9	Markings as specified in FAA-G-2100.	CB1	I	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
NAD-0033.0	3.3.1.2	Connectors IAW DIS 2110, DIS 2593 and EIA-530.	CB1	I	K
			DA1A	I	Q
			EA1	I	N
			FA1A	I	N
NAD-0036.0	3.3.2	Pin config. and electrical characteristics IAW CITT Rec. V.35, RS232 and FED-STD-1032 for EIA-530.	CB1	D	K
			DA1A	D	Q
			EA1	D	N
			FA1A	D	N
NAD-0043.0	3.3.3.1	Interface perform IAW requirements throughout temp. range of 10 to 40 degrees C.	CD1	A	Q
NAD-0046.0	3.3.3.2	Shielding and grounding IAW FAA-STD-020.	DA1B	D	Q
			FA1B	D	N
NAD-0046.1	3.3.3.2	Electromagnetic compatibility comply with FAA-STD-2100 and FCC Rules Part 15, Subpart J.	DA1B	D	Q
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0005.0	3.1.1.1.a	The RMS shall[1] monitor parameters required to determine the operational status of each hardware component of the monitored subsystem to the line replaceable unit (LRU) level	BA1C3B3	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0006.0	3.1.1.1.b	The RMS shall[2] monitor parameters required to determine the operational status of each software component of the monitored subsystem	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0007.0	3.1.1.1.c	The RMS shall[3] monitor parameters required to determine the operational status of each external subsystem interface of the monitored subsystem	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0007.0	3.1.1.1.c	The RMS shall[3] monitor parameters required to determine the operational status of each external subsystem interface of the monitored subsystem	EA3	D	N
RMM-0008.0	3.1.1.1.d	The RMS shall[4] monitor parameters required to derive the RMS status	BA1C3B3	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0009.0	3.1.1.1.e	The RMS shall[5] monitor parameters required to derive the availability status of each subsystem function of the monitored subsystem	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0010.0	3.1.1.1.f	The RMS shall[6] monitor parameters required to derive the subsystem status of the monitored subsystem	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0011.0	3.1.1.1.g	The RMS shall[7] monitor parameters required to certify the monitored subsystem	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0016.0	3.1.1.3.a	The RMS shall[1] perform maintenance data acquisition on a continuing basis concurrent with the operational mission of the monitored subsystem	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0016.0	3.1.1.3.a	The RMS shall[1] perform maintenance data acquisition on a continuing basis concurrent with the operational mission of the monitored subsystem	EA3	D	N
			FA3	D	N
RMM-0017.0	3.1.1.3.b	The RMS shall[2] perform maintenance data acquisition without interfering with the operational mission of the monitored subsystem	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			FA3	D	N
RMM-0018.0	3.1.1.3.c	The RMS shall[3] perform maintenance data acquisition automatically without the need for operator intervention	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0022.0	3.1.2.1.a	The RMS shall[1] automatically declare an alarm condition when a monitored parameter value is outside the acceptable operating range	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0023.0	3.1.2.1.b	The RMS shall[2] automatically declare an alert condition when a monitored parameter value is outside the ideal operating range but within the acceptable operating range	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0024.0	3.1.2.1.c	The RMS shall[3] automatically declare a normal condition when a monitored parameter is within its ideal operating range	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0024.0	3.1.2.1.c	The RMS shall[3] automatically declare a normal condition when a monitored parameter is within its ideal operating range	EA3	D	N
			FA3	D	N
RMM-0025.0	3.1.2.1.d	The RMS shall[4] perform a discriminating function to minimize the declaration of alarm, alert, and normal conditions caused by transient conditions	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
RMM-0026.0	3.1.2.1.e	The RMS shall[5] derive the RMS status for each monitored subsystem on a continuing basis	A1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0027.0	3.1.2.1.f	The RMS shall[6] declare an alarm condition when the RMS function is not available	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0028.0	3.1.2.1.g	The RMS shall[7] declare an alert condition when the RMS function is degraded	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0029.0	3.1.2.1.h	The RMS shall[8] declare a normal condition when the RMS function is available	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0029.0	3.1.2.1.h	The RMS shall[8] declare a normal condition when the RMS function is available	EA3	D	N
			FA3	D	N
RMM-0030.0	3.1.2.1.i	The RMS shall[9] derive the availability status of each subsystem function on a continuing basis	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0031.0	3.1.2.1.j	The RMS shall[10] declare an alarm condition for each subsystem function that is not available	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0032.0	3.1.2.1.k	The RMS shall[11] declare an alert condition for each subsystem function that is degraded	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0033.0	3.1.2.1.l	The RMS shall[12] declare a normal condition for each subsystem function that is available	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0034.0	3.1.2.1.m	The RMS shall[13] derive the subsystem status for each monitored subsystem from the availability of each subsystem function on a continuing basis	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0034.0	3.1.2.1.m	The RMS shall[13] derive the subsystem status for each monitored subsystem from the availability of each subsystem function on a continuing basis	EA3	D	N
			FA3	D	N
RMM-0035.0	3.1.2.1.n	The RMS shall[14] declare an alarm condition for the subsystem status when any subsystem function is not available	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0036.0	3.1.2.1.o	The RMS shall[15] declare an alert condition for the subsystem status when any subsystem function is degraded	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0037.0	3.1.2.1.p	The RMS shall[16] declare a normal condition for the subsystem status when all subsystem functions are available	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0039.0	3.1.2.2.a	The RMS shall[1] declare a state change event when the configuration of the monitored subsystem changes	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0040.0	3.1.2.2.b	The RMS shall[2] declare a state change event when the mode of operation of the monitored subsystem changes	BA1C3B2	D	K
			CD3	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0040.0	3.1.2.2.b	The RMS shall[2] declare a state change event when the mode of operation of the monitored subsystem changes	DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0041.0	3.1.2.2.c	The RMS shall[3] declare a state change event when a user logs on to the RMS at the local MDT	A1C3B2	D	K
			BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
RMM-0042.0	3.1.2.2.d	The RMS shall[4] declare a state change event when a user logs off from the RMS at the local MDT	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0042.0	3.1.2.2.d	The RMS shall[4] declare a state change event when a user logs off from the RMS at the local MDT	FA3	D	N
RMM-0045.0	3.1.3.1.a	The RMS shall[1] report maintenance status notifications to the MPS when the RMS control mode indicates remote reporting	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0046.0	3.1.3.1.b	The RMS shall[2] report maintenance status notifications to the local MDT when the RMS control mode indicates local reporting	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0046.0	3.1.3.1.b	The RMS shall[2] report maintenance status notifications to the local MDT when the RMS control mode indicates local reporting	FA1B	D	N
			FA3	D	N
RMM-0048.0	3.1.3.1.1.a	The RMS shall[1] report an alarm notification on occurrence when the condition is first declared (that is, only once)	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0049.0	3.1.3.1.1.b	The RMS shall[2] report an alert notification on occurrence when the condition is first declared (that is, only once)	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0049.0	3.1.3.1.1.b	The RMS shall[2] report an alert notification on occurrence when the condition is first declared (that is, only once)	FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0050.0	3.1.3.1.1.c	The RMS shall[3] report a return-to-normal notification when an alarm or alert condition transitions to the normal condition, when the condition is first declared (that is, only once)	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0051.0	3.1.3.1.1.d	The RMS shall[4] include the monitored parameter value, if applicable, associated with an alarm condition in an alarm notification	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0051.0	3.1.3.1.1.d	The RMS shall[4] include the monitored parameter value, if applicable, associated with an alarm condition in an alarm notification	EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0052.0	3.1.3.1.1.e	The RMS shall[5] include the monitored parameter value, if applicable, associated with an alert condition in an alert notification	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0053.0	3.1.3.1.1.f	The RMS shall[6] include the monitored parameter value, if applicable, associated with a normal condition in a return-to-normal notification	BA1C3B2	T	Q
			CD3	T	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0053.0	3.1.3.1.1.f	The RMS shall[6] include the monitored parameter value, if applicable, associated with a normal condition in a return-to-normal notification	DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0055.0	3.1.3.1.2.a	The RMS shall[1] report a state change notification on occurrence when the event is first declared (that is, only once)	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0056.0	3.1.3.1.2.b	The RMS shall[2] include the monitored parameter value, if applicable, associated with a state change event in a state change notification	BA1C3B2	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0056.0	3.1.3.1.2.b	The RMS shall[2] include the monitored parameter value, if applicable, associated with a state change event in a state change notification	CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0058.0	3.1.3.2.a	The RMS shall[1] accept maintenance data requests from the MPS when the RMS control mode indicates remote reporting	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0059.0	3.1.3.2.b	The RMS shall[2] accept maintenance data requests from the local MDT when the RMS control mode indicates local reporting	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0060.0	3.1.3.2.c	The RMS shall[3] provide an error response to the MPS when a maintenance data request from the MPS is rejected as a result of RMS control mode checks	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0061.0	3.1.3.2.d	The RMS shall[4] provide an error response to the local MDT when a maintenance data request from the local MDT is rejected as a result of RMS control mode checks	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0062.0	3.1.3.2.e	The RMS shall[5] report a maintenance data response to the requester (that is, MPS or local MDT)	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0064.0	3.1.3.2.1.a	The RMS shall[1] report specific monitored parameters when requested by the MPS	BA1C3B2	D	K
			BA1C3B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0065.0	3.1.3.2.1.b	The RMS shall[2] report specific monitored parameters when requested by the local MDT	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0066.0	3.1.3.2.1.c	The RMS shall[3] report the most recently acquired monitored parameters in performance data reports	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0067.0	3.1.3.2.1.d	The RMS shall[4] report the most recently determined alarm, alert, and normal conditions associated with monitored parameters in performance data reports	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0069.0	3.1.3.2.2.a	The RMS shall[1] report subsystem status when requested by the MPS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0070.0	3.1.3.2.2.b	The RMS shall[2] report subsystem status when requested by the local MDT	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0072.0	3.1.3.2.3.a	The RMS shall[1] report adaptation data when requested by the MPS	BA1C3B2	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0072.0	3.1.3.2.3.a	The RMS shall[1] report adaptation data when requested by the MPS	CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0073.0	3.1.3.2.3.b	The RMS shall[2] report adaptation data when requested by the local MDT	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0076.0	3.2.1.a	The RMS shall[1] authenticate user ID and password when a local MDT user logs on to the RMS	A1C3B2	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0076.0	3.2.1.a	The RMS shall[1] authenticate user ID and password when a local MDT user logs on to the RMS	CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0077.0	3.2.1.b	The RMS shall[2] provide the local RMS control mode	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0078.0	3.2.1.c	The RMS shall[3] provide the local/remote RMS control mode	BA1C3B2	D	Q
			CD3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0078.0	3.2.1.c	The RMS shall[3] provide the local/remote RMS control mode	DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0079.0	3.2.1.d	The RMS shall[4] provide the remote RMS control mode	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0080.0	3.2.1.e	The RMS shall[5] provide the remote/local RMS control mode	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0080.0	3.2.1.e	The RMS shall[5] provide the remote/local RMS control mode	EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0081.0	3.2.1.f	The RMS shall[6] provide for selection of the RMS control mode when a local MDT user logs on to the RMS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0082.0	3.2.1.g	The RMS shall[7] provide for selection of the RMS control mode when a local MDT user logs off the RMS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0082.0	3.2.1.g	The RMS shall[7] provide for selection of the RMS control mode when a local MDT user logs off the RMS	EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0083.0	3.2.1.h	The RMS shall[8] automatically log off the local MDT user from the RMS when no local MDT input (for example, maintenance control command or maintenance data request) occurs within a site-adaptable time period, from 1 minute to 12 hours w	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0084.0	3.2.1.i	The RMS shall[9] maintain the current RMS control mode when a local MDT user is automatically logged off the RMS	BA1C3B2	D	Q
			CD3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0084.0	3.2.1.i	The RMS shall[9] maintain the current RMS control mode when a local MDT user is automatically logged off the RMS	DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0086.0	3.2.2.a	The RMS shall[1] accept maintenance control commands from the MPS when the RMS control mode indicates remote control	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0087.0	3.2.2.b	The RMS shall[2] accept maintenance control commands from the local MDT when the RMS control mode indicates local control	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0088.0	3.2.2.c	The RMS shall[3] provide an error response to the MPS when a maintenance control command from the MPS is rejected as a result of RMS control mode checks	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0089.0	3.2.2.d	The RMS shall[4] provide an error response to the local MDT when a maintenance control command from the local MDT is rejected as a result of RMS control mode checks	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0090.0	3.2.2.e	The RMS shall[5] provide a maintenance control response with the command results or an indication of maintenance control command execution to the MPS when the RMS control mode indicates remote reporting	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0090.0	3.2.2.e	The RMS shall[5] provide a maintenance control response with the command results or an indication of maintenance control command execution to the MPS when the RMS control mode indicates remote reporting	FA3	D	N
RMM-0091.0	3.2.2.f	The RMS shall[6] provide a maintenance control response with the command results or an indication of maintenance control command execution to the local MDT when the RMS control mode indicates local reporting	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0092.0	3.2.2.g	The RMS shall[7] report maintenance data reports as a secondary response for parameters affected by maintenance control command execution to the MPS when the RMS control mode indicates remote reporting	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0092.0	3.2.2.g	The RMS shall[7] report maintenance data reports as a secondary response for parameters affected by maintenance control command execution to the MPS when the RMS control mode indicates remote reporting	FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0093.0	3.2.2.h	The RMS shall[8] report maintenance data reports as a secondary response for parameters affected by maintenance control command execution to the local MDT when the RMS control mode indicates local reporting	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0095.0	3.2.2.1.a	The RMS shall[1] process maintenance control commands from the MPS to reset the subsystem or subsystem component (for example, to initialize or synchronize the subsystem or subsystem component)	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0095.0	3.2.2.1.a	The RMS shall[1] process maintenance control commands from the MPS to reset the subsystem or subsystem component (for example, to initialize or synchronize the subsystem or subsystem component)	EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0096.0	3.2.2.1.b	The RMS shall[2] process maintenance control commands from the local MDT to reset the subsystem or subsystem component	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0104.0	3.2.2.4.a	The RMS shall[1] process maintenance control commands from the MPS to change the mode of operation of the subsystem or subsystem component	BA1C3B2	D	Q
			CD3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0104.0	3.2.2.4.a	The RMS shall[1] process maintenance control commands from the MPS to change the mode of operation of the subsystem or subsystem component	DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0105.0	3.2.2.4.b	The RMS shall[2] process maintenance control commands from the local MDT to change the mode of operation of the subsystem or subsystem component	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0110.0	3.2.2.6.a	The RMS shall[1] process maintenance control commands from the MPS to change adaptation parameters (for example, thresholds, counters, timers, etc	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0111.0	3.2.2.6.b	The RMS shall[2] process maintenance control commands from the local MDT to change adaptation parameters (for example, thresholds, counters, and timers, etc	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0123.0	3.2.3.2	The RMS shall[1] automatically initiate fault recovery processing (for example, reconfiguration) without interfering with the operational mission of the monitored subsystem	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0126.0	3.3.1.a	The RMS shall[1] override and update the RMS control mode when requested by the MPS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0127.0	3.3.1.b	The RMS shall[2] update the RMS control mode when requested by the local MDT	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0128.0	3.3.1.c	The RMS shall[3] provide an RMS control mode change response with the updated RMS control mode to the MPS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0129.0	3.3.1.d	The RMS shall[4] provide an RMS control mode change response with the updated RMS control mode to the local MDT	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0130.0	3.3.1.e	The RMS shall[5] report maintenance data reports to the MPS for parameters affected while in the local RMS control mode, when the RMS control mode transitions from the local RMS control mode to any other RMS control mode	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0144.0	3.3.5.a	The RMS shall[1] add a user ID and password when requested by the MPS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0145.0	3.3.5.b	The RMS shall[2] delete a user ID and password when requested by the MPS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0146.0	3.3.5.c	The RMS shall[3] change a password when requested by the MPS	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0147.0	3.3.5.d	The RMS shall[4] change the password of the logged-on, local MDT user when requested by the user	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0148.0	3.3.5.e	The RMS shall[5] provide a user change response to the MPS in response to any user change command	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0160.0	3.6.a	The RMS shall[1] validate all inputs received from the MPS	A1C3B2	D	K
			BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0161.0	3.6.b	The RMS shall[2] provide an error response to the MPS for invalid inputs	BA1C3B2	D	K
				D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0162.0	3.6.c	The RMS shall[3] validate all inputs received from the local MDT	A1C3B3	D	K
			BA1C3B2	D	K
			BA1C3B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0163.0	3.6.d	The RMS shall[4] provide an error response to the local MDT for invalid inputs	BA1C3B2	D	K
			BA1C3B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0165.0	3.7	The RMS shall[1] perform parameter value processing (for example, analog-to-digital conversion, scaling, filtering, or other digital preprocessing) such that no additional processing by the MPS beyond radix point scaling is required	BA1C3B2	T	K
			BA1C3B3	T	Q
			CD3	T	N
			DA3	D	N
RMM-0168.0	3.8.1.a	All parameters shall[1] be logically grouped according to physically segregated hardware, common functions, or conditions with functional and/or physical commonality	BA1C3B2	A	K
			CB2	A	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0169.0	3.8.1.b	Each logical grouping of parameters shall[2] be uniquely identifiable	BA1C3B2	A	K
			CB2	A	Q
RMM-0170.0	3.8.1.c	Each parameter within a logical grouping shall[3] be uniquely identifiable	BA1C3B2	A	K
			CB2	A	Q
RMM-0172.0	3.8.2.a	The RMS shall[1] permit definition of data sets of parameters from one or more logical groupings for maintenance data request/response reporting	BA1C3B2	T,D	Q
			CD3	T,D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0173.0	3.8.2.b	Each data set shall[2] be uniquely identifiable	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0173.0	3.8.2.b	Each data set shall[2] be uniquely identifiable	FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0174.0	3.8.2.c	Each data set shall[3] be adaptable	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA1A	D	N
			FA1B	D	N
			FA3	D	N
RMM-0179.0	3.9	The maximum response time shall[1] be derived using the upper limit of the 95% confidence interval of the true average response time (assumes normal distribution with a standard deviation of 1 second)	BA3	T,A	K
			CD3	T,A	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0181.0	3.9.1.a	The RMS shall[1] transmit alarm, alert, return-to-normal, and state change notifications within an average time of 2 seconds and a maximum time of 4 seconds	BA3	T,A	K
			CD3	T,A	Q
			DA3	D	N
			EB	D	N
			FB	D	N
RMM-0182.0	3.9.1.b	The RMS shall[2] transmit maintenance data responses within an average time of 2 seconds and a maximum time of 4 seconds	BA1C3B2	T,A	K
			BA3	T,A	K
			CD3	T,A	Q
			DA3	D	N
			EB	D	N
			FB	D	N
RMM-0184.0	3.9.2	The RMS shall[1] transmit maintenance control responses within an average time of 1 second and a maximum time of 3 seconds	BA1C3B2	T,A	K
			BA3	T,A	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0184.0	3.9.2	The RMS shall[1] transmit maintenance control responses within an average time of 1 second and a maximum time of 3 seconds	CD3	T,A	Q
			DA3	D	N
			EB	D	N
			FB	D	N
RMM-0186.0	3.9.3	The RMS shall[1] process maintenance operations support functions within an average time of 2 seconds and a maximum time of 4 seconds	BA1C3B2	T,A	K
			BA3	T,A	K
			CD3	T,A	Q
			DA3	D	N
			EB	D	N
			FB	D	N
RMM-0191.0	3.10.1.a	The RMS shall[1] provide a dedicated serial port for interfacing with the MPS	BA1C3B3	D	Q
			CD1	D	N
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0191.0	3.10.1.a	The RMS shall[1] provide a dedicated serial port for interfacing with the MPS	EA3	D	N
			FA3	D	N
RMM-0192.0	3.10.1.b	The RMS shall[2] provide a dedicated serial port for interfacing with the local MDT	BA1C3B3	D	Q
			CD1	D	N
			DA1B	D	N
			EA3	D	N
			FA3	D	N
RMM-0193.0	3.10.1.c	The RMS shall[3] interface with the MPS in accordance with RMS MPS Interface Requirements Document (IRD), NAS-IR-51035101	BA1C3B3	D	Q
			CD1	D	N
			DA1A	D	N
			DA1B	D	N
			EA3	D	N
			FA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
RMM-0193.0	3.10.1.c	The RMS shall[3] interface with the MPS in accordance with RMS MPS Interface Requirements Document (IRD), NAS-IR-51035101	FA1B	D	N
			FA3	D	N
SSS-0001.0	3.2.1	The ITWS mission equipment have separate states and modes of operation which are independent from the other equipment	BA1C3B2	D	K
			BA1C4B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0002.2	3.2.1.1.1.1.1	ITWS provide fault isolation capability where supported by COTS	CB1	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0002.3	3.2.1.1.1.1.1	ITWS provide diagnostic of failed LRU where supported by COTS	CB1	T	K
			CD3	T	Q
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0002.3	3.2.1.1.1.1.1	ITWS provide diagnostic of failed LRU where supported by COTS	EA3	A	N
			FA3	A	N
SSS-0002.4	3.2.1.1.1.1.2	ITWS support installation of software and site-specific adaptation data	CB1	D	K
			CB2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0002.6	3.2.1.1.1.1.3	Provide selection of adaptation datasets	CD3	T	Q
			DA3	T	N
			EA3	D	N
			FA3	D	N
SSS-0003.0	3.2.1.1.2.1	ITWS SD, NFU and PG software recoverable from transportable secondary storage device	CB1	T	K
			CB2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0003.0	3.2.1.1.2.1	ITWS SD, NFU and PG software recoverable from transportable secondary storage device	FA3	D	N
SSS-0005.0	3.2.1.1.3	Utilize most recently installed set of adaptation data (the current set); if no current set, default is used	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0005.5	3.2.1.1.3	The currently installed application software and adaptation data version displayed.	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0006.0	3.2.1.1.3.1	ITWS PG accept UTC messages via TDWR.	BA1C1B2	T	K
			BA1C3B2	T	K
			BA1C3B3	T	Q
			CD1	T	N
			DA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0006.0	3.2.1.1.3.1	ITWS PG accept UTC messages via TDWR.	DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0007.0	3.2.1.1.3.2	ITWS PG synchronize and maintain to within plus/minus 1 sec of received TDWR UTC.	BA1C1B2	T	K
			BA1C3B3	T	K
			CD1	T	Q
			DA1A	T(1),D	N
			DA1B	T(1),D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0007.2	3.2.1.1.3.2	Provide the capability to turn on and off the synchronization of time with the TDWR UTC data.	BA1C3B3	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	T	N
			FA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0007.2	3.2.1.1.3.2	Provide the capability to turn on and off the synchronization of time with the TDWR UTC data.	FA1B	D	N
SSS-0007.4	3.2.1.1.3.2	Operator able to adjust time via MDT.	BA1C3B3	T	K
			CD3	T	Q
			DA3	D	N
			EA1	T	N
			FA1A	D	N
			FA1B	D	N
SSS-0007.6	3.2.1.1.3.2	Synchronize to the adjusted time when the time is manually adjusted.	BA1C3B3	T	K
			CD3	T	Q
			DA3	D	N
			EA1	T	N
			FA1A	D	N
			FA1B	D	N
SSS-0008.5	3.2.1.1.3.3	ITWS have three levels of access via MDT as listed.	BA1C3B2	T	Q
			CD3	T	N
			DA3	T	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0008.5	3.2.1.1.3.3	ITWS have three levels of access via MDT as listed.	FA3	D	N
SSS-0010.0	3.2.1.1.3.3.1	Supervisory level access provide capability to display and modify all MDT and SD user log-in names and passwords.	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0011.0	3.2.1.1.3.3.2	Maintenance level log-in name and password allow access to maintenance/system control functions.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0011.5	3.2.1.1.3.3.3	Display access from MDT and SD.	BA1C3B2	T	K
			BA1C3B3	T	K
			CD3	T	Q
			DA3	T	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0012.0	3.2.1.1.3.4	ITWS have capability to display field-settable adaptation data in any Mode.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0012.5	3.2.1.1.3.4	MDT has capability to display site physical configuration.	BA1C3B2	T	K
			CD3	T	Q
			DA3	T	N
			EA3	D	N
			FA3	D	N
SSS-0013.0	3.2.1.1.3.4	When in Maintenance Mode ITWS have capability to modify field-settable adaptation data at MDT, including those shown in Table 3-2	BA1C1B2	T	K
			BA1C1B3	T	K
			BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0014.0	3.2.1.1.3.4	ITWS have capability to print sets of adaptation data at MDT.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0015.0	3.2.1.1.3.4	PG manage adaptation data changes affecting more than one ITWS configuration item or function by storing and distributing most recent adaptation.	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0019.0	3.2.1.1.3.5	ITWS continuously generate and maintain log of latest 24 hrs of listed system events.	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0020.0	3.2.1.1.3.6	For each event, log contain UTC date and time (to sec) of occurrence and identification of user or originating source of event	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0021.0	3.2.1.1.3.7	ITWS write copy of system log to MDT printer port on command entered at MDT.	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0022.0	3.2.1.1.3.8	ITWS display system log at MDT on operator request.	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0023.0	3.2.1.1.3.8	ITWS provide option of displaying log as updated or in static form.	BA1C3B2	D	Q
			CD3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0023.0	3.2.1.1.3.8	ITWS provide option of displaying log as updated or in static form.	DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0024.0	3.2.1.1.3.8	Display of system log accomplished w/o changing product generation mode.	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0025.0	3.2.1.1.3.9	On operator command entry from SD, ITWS save output required to produce hard copy of currently displayed SD color image	BA1C4B3	T	Q
			CD2	T	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0026.0	3.2.1.1.3.9	SD capable of directing saved image to printer when printer is attached to SD.	BA1C4B3	D	K
			CD2	D	Q
			DA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0026.0	3.2.1.1.3.9	SD capable of directing saved image to printer when printer is attached to SD.	EA2	D	N
			FA2	D	N
SSS-0027.0	3.2.1.1.3.10	System responsible for reporting status of SD and associated RBDTs iaw Table 3-3.	BA1C4B3	T	Q
			CD3	T	N
			DA3	T	N
			EA3	T	N
			FA3	T	N
SSS-0028.0	3.2.1.1.3.10.1	To avoid duplicate reporting of SD and RBDT failures to RMMS by ITWS and TDWR, SD report to TDWR status of operational for SD and RBDT equipment and comm. links when PG in running State Operational Mode	BA1C4B3	T	Q
			CD3	T	N
			DA3	T	N
			EA3	T	N
			FA3	T	N
SSS-0029.0	3.2.1.1.3.10.2	SD report status of SD and associated RBDTs to TDWR when PG not available.	BA1C4B3	T	Q
			CD3	T	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0029.0	3.2.1.1.3.10.2	SD report status of SD and associated RBDTs to TDWR when PG not available.	DA3	T	N
			EA3	T	N
			FA3	T	N
SSS-0030.0	3.2.1.1.3.11	ITWS PG continuously store on line latest 6 hrs of all data and products acquired from external sources specified in Sec. 3.2.3.1 excluding MPS, w/o user prompting	BA1C1B2	T	K
			BA1C1B3	T	K
			CB1	T	K
			CB2	T	K
			CD2	T	Q
			CD3	T	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0031.0	3.2.1.1.3.11	All recorded data tagged with UTC date and time of acquisition to sec.	BA1C1B2	T	K
			BA1C1B3	T	K
			CD2	T	Q
			DA2	T(1),D	N
			EA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0031.0	3.2.1.1.3.11	All recorded data tagged with UTC date and time of acquisition to sec.	FA2	D	N
SSS-0032.0	3.2.1.1.3.11	ITWS PG provide capability to transfer recorded input data to transportable electronic storage medium, in response to command from MDT	A1C1B2	D	K
			BA1C1B2	D	K
			BA1C3B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0033.0	3.2.1.1.3.11	Transfer accomplished w/o changing product generation mode.	BA1C3B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0034.0	3.2.1.1.3.11	MDT provide continuous display indication of approximate completion percentage of transfer operation.	BA1C1B2	T	K
			BA1C3B3	T	K
			CD2	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0034.0	3.2.1.1.3.11	MDT provide continuous display indication of approximate completion percentage of transfer operation.	DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0035.0	3.2.1.1.3.12	When in maintenance mode, PG, SD, or NFU have capability to accept system software revisions from transportable electronic media	CB1	D	K
			CB2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0036.0	3.2.1.1.3.13.1	ITWS have backup electrical power sufficient to operate PG, SD, and NFU equipment for at least 30 secs	BA1C3B2	T	K
			CB1	T	K
			CD3	T	Q
			DA3	T	N
			EA3	T	N
			FA3	T	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0037.0	3.2.1.1.3.13.2	PG and NFU automatically return to mode in effect at time of power loss, if available, in less than 15 min after restoration of electrical power	BA1C1B2	T	K
			BA1C3B2	T	K
			CD3	T	Q
			DA3	T	N
			EA3	T	N
			FA3	T	N
SSS-0038.5	3.2.1.1.3.13.2	SD restore itself to the highest priority SD operational mode available with selection enabled.	BA1C4B3	T	K
			CD3	T	Q
			DA3	T	N
			EA3	T	N
			FA3	T	N
SSS-0039.0	3.2.1.1.4	ITWS have capability to manually select each of product generation modes from MDT.	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0040.0	3.2.1.1.4	ITWS have capability to support listed Display Support Commands from MDT.	BA1C3B2	D	K
			BA1C3B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0040.5	3.2.1.1.4.1	PG shall have a PG maintenance mode.	BA1C3B2	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0044.0	3.2.1.1.4.1.2	PG Maintenance Adaptation capability provide adaptation data editing and validation capabilities.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0045.5	3.2.1.1.4.1.3	PG has maintenance playback mode	BA1C3B2	D	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0045.5	3.2.1.1.4.1.3	PG has maintenance playback mode	BA1C3B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0046.0	3.2.1.1.4.1.3	Playback of previously recorded input data supported by this capability.	BA1C1B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0047.0	3.2.1.1.4.1.3	Control of data playback from MDT.	BA1C1B2	D	K
			BA1C3B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0048.0	3.2.1.1.4.1.3	Playback possible only during PG maintenance-playback mode.	BA1C3B3	D	K
			CD3	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0048.0	3.2.1.1.4.1.3	Playback possible only during PG maintenance-playback mode.	DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0049.0	3.2.1.1.4.1.3	ITWS capable of performing all product generation using recorded input data as specified in Sec. 3.2.1.1.3.11	BA1C1B2	T	K
			BA1C2B3	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0049.5	3.2.1.1.4.1.3	ITWS to process runway configuration and PIREP messages received from LDR.	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0050.0	3.2.1.1.4.1.3	Playback of recorded input data support both on-line storage device and transportable storage medium	BA1C1B2	D	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0050.0	3.2.1.1.4.1.3	Playback of recorded input data support both on-line storage device and transportable storage medium	CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0050.2	3.2.1.1.4.1.5	Offline-maintenance mode shall be provided.	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0050.5	3.2.1.1.4.1.5	Declare status as maintenance.	BA1C3B2	T	K
			CD3	T	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0054.0	3.2.1.1.4.2	ITWS PG have Product Generation Operational Mode.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0054.0	3.2.1.1.4.2	ITWS PG have Product Generation Operational Mode.	FA3	D	N
SSS-0056.0	3.2.1.1.4.2.1	When in Product Generation Operational Mode, ITWS PG produce products from real-time inputs	BA1C2B3	T	K
			CD2	T	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0057.0	3.2.1.1.4.2.1	ITWS PG generate weather products in Table 3-2 iaw algorithm description contained in DOT/FAA/ND-95/11.	A1C2B3	T, A	K
			A2B3	T, A	K
			BA1C2B3	T, A	K
			BA2B3	T, A	Q
SSS-0058.0	3.2.1.1.4.2.1	Where SD and PG units colocated, time to perform combined functions of product generation, comm., and product display of each product less than maximum allowable latencies defined in Table 3-2	BA1C1B2	T, A	K
			BA3	T, A	Q
			CB1	T, A	N
			CD2	T, A	N
			DA2	T(1),A(1)	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0059.0	3.2.1.1.4.2.1	Where SD and PG units not co-located, time to perform combined functions of product generation and product display for product less than maximum allowable latencies defined in Table 3-2	BA1C1B2	T, A	K
			BA3	T, A	Q
			CB1	T, A	N
			CD2	T, A	N
			DA2	T(2),A(2)	N
SSS-0060.0	3.2.1.1.4.2.2	ITWS PG accept input entered by users via SD to generate Microburst Alert and Wind Shear Alert ATIS Timer Products and Runway Configuration product.	A2B3	T	K
			BA1C1B2	T	K
			BA1C2B3	T	K
			BA1C3B3	T	K
			BA1C4B3	T	K
			BA2B3	T	K
			CD2	T	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0062.0	3.2.1.1.4.2.4	When ITWS can no longer meet latency times in Table 3-4 for colocated PG and SDs, ITWS suspend generation of products starting with lowest priority (Table 3-5) to enable remaining products to meet latency requirements	BA1C2B3	T, A	K
			BA1C3B3	T, A	K
				T, A	Q
SSS-0063.0	3.2.1.1.5	SD require no more than one action for power turn on to SD Operational ITWS Mode.	BA1C3B2	D	K
			BA1C4B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0064.0	3.2.1.1.5	If SD Operational ITWS mode not available, ITWS SD automatically initialize to next available lower priority mode as specified in Sec. 3.2.1.1.5.4	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0065.0	3.2.1.1.5	ITWS SD transition to SD Maintenance mode when commanded at SD.	BA1C3B2	D	K
			BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0066.0	3.2.1.1.5	Send Playback status to CRS	BA1C1B2	D	K
			BA1C2B3	D	K
			BA1C4B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0072.0	3.2.1.1.5.1.2	Adaptation capability provide adaptation data editing and validation capabilities.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0073.0	3.2.1.1.5.1.2	ITWS have capability to display and, when in SD Maintenance mode Adaptation Mode, modify field-settable adaptation data at SD, including those in Table 3 3	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0074.0	3.2.1.1.5.1.2	ITWS have capability to display and modify user-settable adaptation data at SD.	BA1C4B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0075.0	3.2.1.1.5.1.3	ITWS capable of displaying archived data on SD and RBDT.	BA1C4B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0076.0	3.2.1.1.5.1.3	Archive retrieval controllable only from SD.	BA1C3B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0077.0	3.2.1.1.5.1.3	Archive retrieval at given SD be independent from other SDs.	BA1C4B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0078.0	3.2.1.1.5.1.3	Archive retrieval capability allow operational commands entered from SD.	BA1C4B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0079.0	3.2.1.1.5.1.3	SD provide capability to retrieve archive data at real time rate.	BA1C4B3	T	K
			CD2	T	Q
			DA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0079.0	3.2.1.1.5.1.3	SD provide capability to retrieve archive data at real time rate.	EA2	D	N
			FA2	D	N
SSS-0080.0	3.2.1.1.5.1.3	Archive Retrieval independent of PG mode.	BA1C4B3	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0082.5	3.2.1.1.5.1.5	Data archived at the SD transferable to and retrievable from a removable storage medium.	BA1C3B3	D	K
			BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0083.0	3.2.1.1.5.2	SD Operational mode support 3 situation display operational modes (ITWS, TDWR, LLWAS)	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0083.0	3.2.1.1.5.2	SD Operational mode support 3 situation display operational modes (ITWS, TDWR, LLWAS)	FA2	D	N
SSS-0084.0	3.2.1.1.5.2	Modes for each SD and associated RBDTs independent of mode for other SDs.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0084.5	3.2.1.1.5.2	Modes independent for each airport.	BA1C4B3	T	Q
			CD3	T	N
			DA3	T	N
			EA2	D	N
			FA2	D	N
SSS-0085.0	3.2.1.1.5.2	SD acquire, as operationally configured, ITWS, TDWR and LLWAS products if products operationally available from these systems	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0086.0	3.2.1.1.5.2	SD ITWS, TDWR and LLWAS Operational Modes available at ATCT SD and associated RBDTs	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0087.0	3.2.1.1.5.2	SD ITWS and TDWR Operational Modes available at TRACON SD and associated RBDTs.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0088.0	3.2.1.1.5.2	SD ITWS Operational Mode available at ARTCC SD.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0089.0	3.2.1.1.5.2.1	In SD Operational Mode, SD execute operational commands	BA1C3B2	D	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0089.0	3.2.1.1.5.2.1	In SD Operational Mode, SD execute operational commands	BA1C3B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0090.0	3.2.1.1.5.2.1	Operator commands affecting existing files require user confirmation prior to execution.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0091.0	3.2.1.1.5.2.2	Deleted by Letter ITWS-98-C-147 (IR838)	BA1C4B3	T	Q
			CD1	T	N
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0092.0	3.2.1.1.5.2.3	For operator commands (other than those excepted) that update graphic windows, response time from completion of command entry until results displayed less/equal 3 sec under nominal load condition	BA1C4B3	T	Q
SSS-0093.0	3.2.1.1.5.2.3	When request requires creation of new text or graphic window, response time for window creation and graphic display less/equal to 10 sec	BA1C4B3	T	Q
SSS-0094.0	3.2.1.1.5.2.3	Automatic closure of dialog boxes occur in 30 +/-3 sec.	BA1C4B3	T	Q
SSS-0095.0	3.2.1.1.5.2.4	ITWS control RBDT audible alarms that are generated on display of hazardous weather alphanumeric alarm messages.	BA1C4B3	T	K
			CD2	T	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0096.0	3.2.1.1.5.2.5	ITWS control RBDT visual alarms that are generated on display of hazardous weather alphanumeric alarm messages.	BA1C4B3	T	K
			CD2	T	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0097.0	3.2.1.1.5.2.6	RBDT screen blanked and equipment status message displayed when no RBDT data available.	BA1C4B3	T	Q
			CD2	T	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0098.0	3.2.1.1.5.3	Each ITWS SD provide display support function allowing user to enter display support commands at SD and MDT.	BA1C3B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0099.0	3.2.1.1.5.3	Mode of SD and associated RBDTs unchanged in response to display support commands.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0101.0	3.2.1.1.5.3	Access by SD to set of display support commands determined by adaptation parameters.	BA1C3B2	D	K
			BA1C3B3	D	K
			BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0109.0	3.2.1.1.5.3.1	Upon execution of Change Password command from SD or MDT, users able to change SD password	BA1C3B2	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0110.0	3.2.1.1.5.3.1	Change Password command apply globally to all associated SDs and MDT	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0117.0	3.2.1.1.5.3.1	On execution of command from SD or MDT, users able to allow/disallow availability of runway to be included in any runway configuration on SD	BA1C3B2	D	K
			BA1C3B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0118.0	3.2.1.1.5.3.1	Set Runway command apply globally to all associated SDs.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0119.0	3.2.1.1.5.3.1	Upon execution of Edit Alarm Timeout command from SD or MDT, users able to edit RBDT default values for listed items	BA1C3B2	D	K
			BA1C3B3	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0119.0	3.2.1.1.5.3.1	Upon execution of Edit Alarm Timeout command from SD or MDT, users able to edit RBDT default values for listed items	FA3	D	N
SSS-0120.0	3.2.1.1.5.3.1	Edit Alarm Time-out command apply globally to all associated SDs.	BA1C3B2	D	K
			CD3	D	Q
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0121.0	3.2.1.1.5.3.2	SD display indication of command execution for display support commands with response time from completion of command entry to displayed results greater/equal 3 sec.	BA1C3B3	T	K
			BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0122.0	3.2.1.1.5.4	Priority level (highest to lowest) of SD operational modes as listed.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0122.0	3.2.1.1.5.4	Priority level (highest to lowest) of SD operational modes as listed.	FA2	D	N
SSS-0123.0	3.2.1.1.5.4.1	SD indicate Product Generation Mode (if available) and SD Mode.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0124.0	3.2.1.1.5.4.1	SD indicate status of each directly connected TDWR.	BA1C4B3	T	K
			CD3	T	Q
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0125.0	3.2.1.1.5.5	SD ITWS Operational Mode = default product display mode.	BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0126.0	3.2.1.1.5.5	In ITWS Operational Mode, SD and associated RBDTs display ITWS products exclusively, when products available from ITWS PG	BA1C4B3	T	Q
			CD2	T	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0126.5	3.2.1.1.5.6	When current data source is not available, use lower priority source	BA1C4B3	T	Q
			CD3	T	N
			DA3	T	N
			EA2	D	N
			FA2	D	N
SSS-0127.0	3.2.1.1.5.6	If TRACON or ATCT SD unable to provide microburst and windshear alert RBDT products from ITWS PG to RBDTs, SD provide RBDT products using product data acquired by SD from designated TDWR RPG	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0128.0	3.2.1.1.5.6	If ATCT SD unable to provide RBDT products to RBDTs from ITWS PG and TDWR RPG, SD provide RBDT using RBDT product data acquired by SD from LLWAS	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0129.0	3.2.1.1.5.7	When operating in SD TDWR Operational Modes, SDs acquire products directly from TDWR	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0130.0	3.2.1.1.5.7	SDs and associated RBDTs display TDWR products exclusively.	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0131.0	3.2.1.1.5.7	When operating in SD TDWR Operational Mode, SD processing time from receipt of TDWR product less/equal SD processing time when products received directly from ITWS PG	BA3	T	Q
SSS-0132.0	3.2.1.1.5.8	When operating in SD LLWAS Operational Mode, SDs acquire products directly from LLWAS	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0133.0	3.2.1.1.5.8	RBDTs display LLWAS products exclusively.	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0134.0	3.2.1.1.5.8	SDs and/or associated RBDTs in ATCT have capability to accept and display products from LLWAS whenever TDWR in maintenance mode or TDWR alphanumeric/graphic data unavailable.	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0134.0	3.2.1.1.5.8	SDs and/or associated RBDTs in ATCT have capability to accept and display products from LLWAS whenever TDWR in maintenance mode or TDWR alphanumeric/graphic data unavailable.	EA2	D	N
			FA2	D	N
SSS-0135.0	3.2.1.1.5.8	SD processing time less/equal SD processing time when products acquired directly from PG.	BA3	T	Q
SSS-0136.0	3.2.1.1.5.9	ITWS SD have capability to manually select each of SD Operational Modes.	BA1C3B2	D	K
			BA1C4B3	D	Q
			CD3	D	N
			DA3	D	N
			EA3	D	N
			FA3	D	N
SSS-0137.0	3.2.1.1.5.9	SD manually transition to selected SD capability in less/equal 3 sec.	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA3	D	N
			FA3	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0138.0	3.2.1.1.5.10	If automatic mode transition enabled and SD Mode not manually commanded, SD and associated RBDTs automatically transition to highest available product display operational mode iaw Tables 3-2 through 3-4 when SD identifies one of	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0138.5	3.2.1.1.5.10	When all sources are unavailable, SD displays remain in mode prior to last operational mode failure	BA1C4B3	T	Q
			CD3	T	N
			DA3	T	N
			EA2	D	N
			FA2	D	N
SSS-0139.0	3.2.1.1.5.10	SD in ARTCC remain in SD ITWS Operational Mode if one of listed events occurs.	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0140.0	3.2.1.1.5.10.1	On source failure, SD transition to SD Operational mode defined in Sec. 3.2.1.1.5.10 and display appropriate products in less/equal 3 sec	BA1C4B3	T	Q
			CD3	T	N
			DA3	D	N
			EA2	D	N
			FA2	D	N
SSS-0141.5	3.2.1.1.5.11	Manual selection of an operational mode for an individual airport display at the SD overrides an automatic transition.	BA1C4B3	T	Q
			CD3	T	N
			DA3	T	N
			EA2	D	N
			FA2	D	N
SSS-0142.0	3.2.1.1.5.11.1	In all product display operational modes, ITWS SD store, w/o user intervention, 15 days of data required to recreate weather products which could have been presented on SD in any operational Mode, and products which were displayed	BA1C4B3	T	Q
			CB1	T	N
			CD2	T	N
			DA2	D	N
			EA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0142.0	3.2.1.1.5.11.1	In all product display operational modes, ITWS SD store, w/o user intervention, 15 days of data required to recreate weather products which could have been presented on SD in any operational Mode, and products which were displayed	FA2	D	N
SSS-0144.0	3.2.1.1.5.11.1	Archive data include, but not limited to, displayable products on SD and RBDT, displayable data, system status messages, SD user-settable and SD field-settable adaptation parameters	BA1C4B3	T	Q
			CD2	T	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0145.0	3.2.1.1.5.11.1	All archive data tagged with at minimum Julian date and UTC hr, min, and sec of generation	BA1C4B3	T	Q
			CD2	T	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0146.0	3.2.1.1.5.11.1	ITWS SD retain archive data during power loss and maintenance activities.	BA1C4B3	T	K
			CD2	T	Q
			DA2	T	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0146.0	3.2.1.1.5.11.1	ITWS SD retain archive data during power loss and maintenance activities.	EA2	D	N
			FA2	D	N
SSS-0157.0	3.2.1.1.6.2	NFU standalone unit, physically separate from other ITWS equipment	CB2	I	Q
			CD2	I	N
			DA2	I	N
SSS-0158.0	3.2.1.1.6.2	NFU report status to associated ITWS PG.	BA1C1B3	T	K
			BA1C3B3	T	K
			CD3	T	Q
			DA3	T	N
SSS-0159.0	3.2.1.1.6.2	Filtered data, covering each ITWS TRACON area, and extending 30 miles beyond TRACON, distributed to each ITWS PG via NADIN II PSN	BA1C1B3	T	Q
			CD2	T	N
			DA2	T	N
SSS-0160.0	3.2.1.1.6.2	NFU processing time for RUC data less than 2 min.	BA1C1B3	T	K
			BA3	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0160.0	3.2.1.1.6.2	NFU processing time for RUC data less than 2 min.	CD2	T	N
			DA2	T	N
SSS-0161.0	3.2.1.1.6.2	MDCRS data have higher priority than RUC data for filtering and transmission.	BA1C1B3	T	Q
			CD2	T	N
			DA2	D	N
SSS-0162.0	3.2.1.1.6.2	NFU processing time for MDCRS data less than 30 sec.	BA3	T	Q
			CD2	T	N
			DA2	T	N
SSS-0163.0	3.2.1.2.1	ITWS TT transition to Operational Mode when commanded at operator console.	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N
SSS-0163.5	3.2.1.2.1	Installation capability display currently installed software version.	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0164.0	3.2.1.2.1.1.1	TT to inject prerecorded or synthetic data, and receive disseminated ITWS products, in form and format of ITWS interfaces (as defined in Sec. 3.2.3.1 except MPS), and at real-time data rates	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0165.0	3.2.1.2.1.1.1	TT provide full complement of external interfaces at ITWS physical point of demarcation (identified in applicable IRDs/ICDs) necessary to validate system functional and performance requirements.	BA1C5B2	T	K
			CB1	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0166.0	3.2.1.2.1.1.1	TT maintain minimum of 2 hrs of raw data for each interface for which data to be injected.	CB1	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0167.0	3.2.1.2.1.1.1	TT able to repeat data values in a test case to form up to 72 hour set of data.	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0168.5	3.2.1.2.1.1.1	Automatic computed and updated to form continuous time reference	A1C5B2	T	K
			BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0169.0	3.2.1.2.1.1.1	TT support user definition of at least six test cases.	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N
SSS-0170.0	3.2.1.2.1.1.1	Raw data editing capability include listed features.	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0171.0	3.2.1.2.1.1.1	TT provide interactive control console supporting listed capabilities	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0172.0	3.2.1.2.1.1.1	TT provide display, and selectable formatted soft copy and/or hard copy, which identifies listed items as events occur	BA1C5B2	T	Q
			CD1	T	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0172.0	3.2.1.2.1.1.1	TT provide display, and selectable formatted soft copy and/or hard copy, which identifies listed items as events occur	DA1A	D	N
SSS-0173.0	3.2.1.2.1.1.1	For this information, TT provide selected logging of all or parts of test, and capability to review data via soft copy or hard copy	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0174.0	3.2.1.2.1.1.1	Formatted hard copy/soft copy capability provide capability to output contents of any set of raw data stored by TT.	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N
SSS-0175.0	3.2.1.2.1.1.1	TT provide capability to form test cases from raw data sets.	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N
SSS-0176.0	3.2.1.2.1.1.1	TT use 6 hr input data recording device and data as initial input source of TT raw data.	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0177.0	3.2.1.2.1.1.1	Data selectable by individual data source and time span.	BA1C5B2	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0177.0	3.2.1.2.1.1.1	Data selectable by individual data source and time span.	CD1	D	N
			DA1A	D	N
SSS-0178.0	3.2.1.2.1.1.1	TT display catalog of data being maintained by test case, interface name and time frame of data	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N
SSS-0178.5	3.2.1.2.1.1.1	Provide capability for display data catalog.	BA1C5B2	D	Q
			CD1	D	N
			DA1A	D	N
SSS-0180.0	3.2.1.2.1.1.1	Data being output by TT be time synchronized across all active interfaces.	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0181.0	3.2.1.2.1.1.1	TT record data received from ITWS PG.	BA1C5B2	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0181.5	3.2.1.2.1.1.1	Capability to copy test case and data to removable storage.	BA1C5B2	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0181.5	3.2.1.2.1.1.1	Capability to copy test case and data to removable storage.	CD1	T	N
			DA1A	D	N
SSS-0182.0	3.2.1.2.1.1.2	TT provide external interfaces up to maximum ITWS configuration, with exception of MPS interface	BA1C5B2	T	K
			CB1	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0182.5	3.2.1.2.1.1.2	TT provide NFU to ITWS interface to support output of NFU data.	BA1C5B2	T	K
			CB1	T	Q
			CD1	T	N
			DA1A	D	N
SSS-0186.2	3.2.1.2.2.1	Diagnostic capability provide fault isolation capability, excluding firmware LRUs, down to LRU level, where supported by COTS design	CB1	T	K
			CD3	T	Q
			DA3	D	N
SSS-0186.4	3.2.1.2.2.2	Installation capability supported.	CB1	D	K
			CD3	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0186.4	3.2.1.2.2.2	Installation capability supported.	DA3	D	N
SSS-0186.6	3.2.1.2.2.2	Installation control of ITWS TT provided from local console.	CB1	D	K
			CD3	D	Q
			DA3	D	N
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and executing software for operational and off–line analysis purposes, including listed items	CB1	A, T	K
			G1	A, T	Q
			G2	T	N
SSS-0188.0	3.2.1.3.1.2	Computers have memory, storage, computational, and i/o capacity sufficient to perform requirements described in Sec. 3.2.1.3.1.1	CB1	A, T	K
			G1	A, T	Q
SSS-0189.0	3.2.1.3.1.3	Operational software compilation execute at average rate of at least 60 lines of C/C++ source code per min for at least 4 simultaneous users performing software development and testing activities.	CB1	A, T	K
			G1	A, T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0190.0	3.2.1.3.1.4	20% degraded timeliness for each activity allowed when two types of activities, as described in Sec. 3.2.1.3.1.1, performed simultaneously	CB1	A, T	K
			G1	A, T	Q
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execution of SEE functions and applications.	G1	D	Q
			G2	D	N
SSS-0192.0	3.2.1.3.1.5.2	SEE include read/write mass storage, with capacity to store all SEE applications and operating system software and at least 24 hrs of both input data and products data	CB1	A, T	K
			G1	A, T	Q
			G2	D	N
SSS-0193.0	3.2.1.3.1.5.3	SEE include at least one printer unit, with minimum printing rate of 600 lines (132 characters per line) per min	CB1	A,I	K
			CB2	A,I	K
			G1	A,I	Q
			G2	I	N
SSS-0194.0	3.2.1.3.1.5.4	ITWS SEE include support equipment necessary to develop, maintain, test, analyze, and debug all ITWS functional programs located in firmware, excluding COTs firmware	CB1	A, I	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0194.0	3.2.1.3.1.5.4	ITWS SEE include support equipment necessary to develop, maintain, test, analyze, and debug all ITWS functional programs located in firmware, excluding COTs firmware	G1	A, I	Q
			G2	I	N
SSS-0195.0	3.2.1.3.1.6	SEE include CPU, i/o device, and memory resources required for expansion of SEE to at least twice specified number of each peripheral device as listed	CB1	A	K
			G1	A	Q
SSS-0197.0	3.2.3.1.1	ITWS PG provide one port for all ITWS products via NADIN-II PSN.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0198.0	3.2.3.1.1	ITWS PG provide only display products (Table 3-4, Products 1 to 9, 10b, 11b, and 12) to a second field settable destination via NADIN-II PSN	BA1C1B2	T	K
			BA1C5B2	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0199.0	3.2.3.1.2	From 0 to 4 TDWR base data interfaces supported per ITWS PG.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CB2	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0199.0	3.2.3.1.2	From 0 to 4 TDWR base data interfaces supported per ITWS PG.	FA1A	D	N
			FA1B	D	N
SSS-0200.0	3.2.3.1.2	From 0 to 2 TDWR product interface supported by SDs	BA1C4B3	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0201.0	3.2.3.1.2	ITWS interface with TDWR iaw NAS-IR-31052514 (Parts 1 and 2).	A1C1B2	T	K
			BA1C1B2	T	K
			BA1C4B3	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0201.0	3.2.3.1.2	ITWS interface with TDWR iaw NAS-IR-31052514 (Parts 1 and 2).	DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0202.0	3.2.3.1.3	ITWS acquire surface weather observation and lightning detection data via ADAS, from all AWOS/ASOSs located within area bounded by 30 miles beyond each ITWS TRACON area	BA1C1B2	T	K
			BA1C5B2	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0203.0	3.2.3.1.3	ITWS interface with ADAS iaw NAS-IR-25082514 via NADIN-II PSN.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0203.0	3.2.3.1.3	ITWS interface with ADAS iaw NAS-IR-25082514 via NADIN-II PSN.	DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0203.5	3.2.3.1.3	From 0 to 3 ADAS inputs accepted per ITWS PG.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0204.0	3.2.3.1.4	From 0 to 2 NEXRAD interfaces supported per ITWS PG.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0204.0	3.2.3.1.4	From 0 to 2 NEXRAD interfaces supported per ITWS PG.	DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0205.0	3.2.3.1.4	ITWS interface with NEXRAD radar iaw ICD for RPG/Associated PUP (Doc. No. 1208304I).	A1C1B2	T	K
			BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0206.0	3.2.3.1.5	From 0 to 6 ASR-9s supported per ITWS PG.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0207.0	3.2.3.1.5	ITWS interface with ASR-9 radar iaw NAS-IR-34032514	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0208.0	3.2.3.1.6	ITWS interface with MPS iaw Section 10.1.3 and Table 10 II of NAS-IR-51035101 via NADIN-II PSN.	BA1C3B2	T	K
			BA1C3B3	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0209.0	3.2.3.1.7	ITWS interface with Data Link Users via NADIN-II PSN.	BA1C1B2	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0210.0	3.2.3.1.7	ITWS to disseminate Terminal Weather Text Messages (Table 3-4, Products 11a and 11b) to Data Link Users via NADIN-II PSN	BA1C1B2	T	K
			BA1C5B2	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0211.0	3.2.3.1.8	ITWS interface with NADIN-II PSN iaw NAS-IR-43020001.	BA1C1B2	T	K
			BA1C1B3	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0212.0	3.2.3.1.9	ITWS NFU located in one of ITWS TRACONs acquire RUC data from NMC via FBWTG.	BA1C1B3	T	K
			BA1C5B2	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0213.0	3.2.3.1.9	ITWS NFU interface with FBWTG iaw NAS-IR-94142514.	A1C1B3	T	K
			BA1C1B3	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0214.0	3.2.3.1.9	ITWS NFU acquire MDCRS from NMC via FBWTG.	BA1C1B3	T	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0214.0	3.2.3.1.9	ITWS NFU acquire MDCRS from NMC via FBWTG.	BA1C5B2	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0215.0	3.2.3.1.10	1 LLWAS interface supported at designated SDs.	BA1C4B3	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0216.0	3.2.3.1.10	ITWS SD interface with LLWAS iaw NAS-IC-31053102.	BA1C4B3	T	K
			BA1C5B2	T	K
			CB1	T	K
			CD1	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0216.0	3.2.3.1.10	ITWS SD interface with LLWAS iaw NAS-IC-31053102.	DA1A	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0217.0	3.2.3.1.11	ITWS PG interface with ARTCC SD via NADIN-II PSN.	BA1C1B2	T	K
			BA1C4B3	T	K
			BA1C5B2	T	K
			CD1	T	Q
			DA1A	T	N
			DA1B	T	N
			EA1	D	N
			FA1A	T	N
			FA1B	T	N
SSS-0218.0	3.2.3.1.11	ITWS perform error-detection, and correction or retransmission, on data transmitted over physical interfaces between Product Generation and SD functions, excluding RBDT	BA1C1B2	T	K
			BA1C4B3	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0218.0	3.2.3.1.11	ITWS perform error-detection, and correction or retransmission, on data transmitted over physical interfaces between Product Generation and SD functions, excluding RBDT	EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0219.0	3.2.3.2	PG have capability to support from 0 to 11 SDs located in ATCTs, TRACONs, and ARTCCs	BA1C1B2	T	K
			BA1C3B2	T	K
			BA1C3B3	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0220.0	3.2.3.2	Each SD have capability to simultaneously process and display data from 1 to 5 PGs.	BA1C4B3	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0220.0	3.2.3.2	Each SD have capability to simultaneously process and display data from 1 to 5 PGs.	EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0221.0	3.2.3.2	Each SD have capability to support from 0 to 8 RBDTs.	BA1C4B3	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0222.0	3.2.3.2.1	ITWS provide Remote Monitoring functions and interface with MDT iaw NAS-MD-793A, Secs. 3.1.1.1 through 3.10.1, except Secs. 3.1.1.2, 3.3.2, 3.4, 3.5, and 3.9.4	BA1C3B2	T	K
			BA1C3B3	T	K
			CD1	T	Q
			DA1B	D	N
			EA1	D	N
			FA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0223.0	3.2.3.2.1	ITWS PG provide dedicated serial port for interfacing with MDT at minimum speed of 9600 bps.	CB1	T	K
			CD1	T	Q
			DA1B	D	N
			EA3	D	N
			FA3	D	N
SSS-0224.0	3.2.3.2.2	Data rate for SD located in ATCT to receive all products for that ATCT's airport from ITWS PG less/equal 19.2 kbps.	CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0225.0	3.2.3.2.2	Data rate for SD located in TRACON to receive all products for single airport from PG less/equal 19.2 kbps.	CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0225.0	3.2.3.2.2	Data rate for SD located in TRACON to receive all products for single airport from PG less/equal 19.2 kbps.	FA1B	D	N
SSS-0226.0	3.2.3.2.2	ITWS PG interface with ITWS SD using Link Access Protocol Balanced (LAPB) (ISO 7776) with EIA-530 physical requirements.	CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0227.0	3.2.3.2.2	ITWS perform error-detection, and correction or retransmission, on data transmitted over physical interfaces between PG and SD functions, excluding RBDT	BA1C1B2	T, A	K
			BA1C4B3	T, A	K
			CB1	T, A	K
			CD1	T, A	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0228.0	3.2.3.2.3	SD interface to RBDT iaw APD-250M045/APD 250M060, Plasma Display Monitor/Alarm System Instruction Manual	BA1C4B3	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0229.0	3.2.3.2.4	ITWS SD have two-way interface for recording and retrieval of Archived Data using SCSI II type interface.	CB1	D	K
			CB2	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0230.0	3.2.3.2.5	ITWS PG can be configured to be one of two SCSI-II addresses providing two-way interface for recording and retrieval of recorded input data.	BA1C1B2	T	K
			BA1C3B2	T	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0230.0	3.2.3.2.5	ITWS PG can be configured to be one of two SCSI-II addresses providing two-way interface for recording and retrieval of recorded input data.	CB1	T	K
			CD2	T	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0231.0	3.2.3.2.6	Each ITWS PG interface with ITWS NWS Filter Unit (NFU) via NADIN-II PSN.	BA1C1B3	T	K
			CB1	T	K
			CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
SSS-0233.0	3.2.4.2.1	Viewing screen of SD at least 19 in measured diagonally.	CB1	I	Q
SSS-0234.0	3.2.4.2.2	All SD input devices (keyboard, trackball, and mouse) able to operate at distance of at least 5 ft from SD monitor	CB1	I	Q
			CD2	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0234.0	3.2.4.2.2	All SD input devices (keyboard, trackball, and mouse) able to operate at distance of at least 5 ft from SD monitor	DA2	I	N
			EA2	I	N
			FA2	I	N
SSS-0235.0	3.2.4.2.3	SD have brightness control.	CB1	I	Q
SSS-0236.0	3.2.4.2.4	SD have contrast control.	CB1	I	Q
SSS-0237.0	3.2.4.2.5	SD have color palette iaw Table A-1 from DoT/FAA/ND -95/10.	BA1C4B3	T	Q
			CB1	T	N
SSS-0238.0	3.2.4.2.6	Character and symbol sizes iaw Tables A-2, A-3 in DoT/FAA/ND -95/10	BA1C4B3	T	Q
			CB1	T	N
SSS-0239.0	3.2.4.2.7	SD viewing screen visible from front w/o obstructions caused by SD casing.	CB1	I	Q
SSS-0240.0	3.2.4.2.7	SD viewing screen capable of being tilted 15° upward and 15° downward about horizontal axis.	CB1	I	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0241.0	3.2.4.2.7	SD viewing screen capable of being swiveled 45° left and 45° right about vertical axis.	CB1	I	Q
SSS-0242.0	3.2.4.2.8	SD use non-interlaced display technology.	CB1	A	Q
SSS-0243.0	3.2.4.2.8	SD have minimum vertical refresh rate of 67 Hz.	CB1	A	Q
SSS-0244.0	3.2.4.2.9	Minimum resolution of bit graphics display = 1280 (horizontal) by 1024 (vertical) pixels.	CB1	A	Q
SSS-0245.0	3.2.4.2.10	When viewed perpendicular to viewing screen, CF be at least 40 in dark ambient; 5 in 450 foot-candle ambient; and 2 in 2000 foot-candle ambient	CB1	A	Q
SSS-0246.0	3.2.4.2.11	SD accept operator command inputs from 3-button mouse, trackball, or keyboard	BA1C4B3	D	Q
			CB1	D	N
			CD2	D	N
			DA2	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0247.0	3.2.4.2.11	When in situation display operational modes, only operator command inputs from 3-button cursor positioning device be accepted	BA1C4B3	D	Q
			CD2	D	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0248.0	3.2.4.2.11	Invalid command inputs result in error indication.	BA1C3B3	D	K
			BA1C4B3	D	Q
			CD2	D	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0249.0	3.2.4.3	Electrical power requirements for ATCT and TRACON equipment comply with NAS-IR-63002514, Sec. 3.2.2 and subsections	CB1	A	K
			DA1A	D,I	Q
			FA1A	D,I	N
SSS-0250.0	3.2.4.3	Electrical power requirements for ARTCC equipment comply with NAS-IR-61002514, Sec. 3.2.2 and subsections	CB1	A	K
			DA1A	D,I	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0250.0	3.2.4.3	Electrical power requirements for ARTCC equipment comply with NAS-IR-61002514, Sec. 3.2.2 and subsections	FA1A	D,I	N
SSS-0251.0	3.2.4.3	Each equipment unit provided with single circuit breaker for supply-power overload protection, as well as visible circuit-breaker indicator	CB1	A, I	Q
SSS-0252.0	3.2.4.3	Circuit breaker comply with requirements for electrical overload devices as outlined in FAA-G- 2100, Sec. 3.1.2.4.4 and subsections	CB1	A, I	Q
SSS-0253.0	3.2.4.3	Each equipment unit provide for distribution of electrical power within unit.	CB1	A, I	Q
SSS-0254.0	3.2.4.3	Design of ITWS such that removal of power from any component cannot damage any other component.	CB2	A	Q
SSS-0255.0	3.2.4.4	Weight of ITWS equipment less/equal to those values specified in Table 3 10.	CB1	A	Q
SSS-0256.0	3.2.4.4	Cabinets and frames have average weight distribution of floor loading of less than 100 lbs per sq ft or 408.3 kgs per sq m.	CB1	A	Q
SSS-0257.0	3.2.4.4.1	Physical dimensions of ITWS equipment less/equal to those values specified in Table 3 10.	CB1	A	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0258.0	3.2.4.5	Equipment units provide front and rear access as needed for maintenance and repair activities.	CB1	A	K
			DA1A	D	Q
			FA1A	D	N
SSS-0259.0	3.2.4.5	Distance required for front and rear maintenance access between rows of equipment units iaw Table 3-10.	DA1A	D	Q
			FA1A	D	N
SSS-0260.0	3.2.4.6	Structural strength and rigidity of equipment units such that common carrier handling (loading, shipping, unloading) and setting into position for installation not cause damage to any ITWS component nor deformation to equipment	CB1	A	Q
SSS-0261.0	3.2.5.1	ITWS have minimum system MTBF of at least 2704 hrs for following configurations: 1 ITWS PG, and 2 SDs and intrafacility ITWS comm equipment	CB1	T, A	K
			CC	T, A	K
			DB1	A(1)	Q
SSS-0262.0	3.2.5.1	MTBF for NFU at least equal to MTBF of SD.	CB1	T, A	K
			CC	T, A	K

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0262.0	3.2.5.1	MTBF for NFU at least equal to MTBF of SD.	DB1	A(1)	Q
SSS-0263.0	3.2.5.2	MTTR for ITWS less/equal to 0.5 hr.	CB1	A	K
			DB2	D(1)	Q
SSS-0264.0	3.2.5.2.1	ITWS require no more than 4 site visits/year to accomplish required preventive maintenance.	CB2	A	Q
SSS-0265.0	3.2.5.2.2	ITWS require no more than 4 site visits/year to accomplish corrective maintenance.	CB2	A	Q
SSS-0266.0	3.2.5.3	ITWS have inherent availability of at least 0.999815 based on conditions specified in Sec. 3.2.5.1.	CB2	A	K
			CC	A	K
			DB1	A(1)	Q
SSS-0267.0	3.2.5.4	Number of unresolved ITWS software errors prior to start of FAT no more than limits specified in Table 3-7.	CC	A	Q
SSS-0268.0	3.2.6	SD to be installed in ATCT and SDs, and PG to be installed in TRACON comply with NAS-IR-63002514, Sec. 3.2.3 and subsections	CB1	A	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0269.0	3.2.6	SDs to be installed in ARTCC comply with NAS-IR-61002514, Sec. 3.2.3	CB1	A	Q
SSS-0270.0	3.2.8	System design provide for expansion of listed items to at least 2 times at each site configuration.	CB2	A	Q
SSS-0271.0	3.2.9	When porting to another implementation of OS and programming language on same hardware platform, less than 2% of application code change	CB2	A	Q
SSS-0272.0	3.2.9	When porting to another POSIX-compliant hardware platform, less than 5% of application code change	CB2	A	Q
SSS-0273.0	3.3.1	ITWS parts and materials meet listed requirements w/o modification of any COTS) physical equipment within ITWS	CB1	A	Q
SSS-0274.0	3.3.2	ITWS implemented in compliance with FAA-G- 2100, Sec. 3.3.2.3	CB1	A	Q
SSS-0275.0	3.3.4	Workmanship iaw FAA-G- 2100, Sec. 3.3.4	CB1	A	Q
SSS-0276.0	3.3.5	All non-GFE ITWS equipment and interchangeable or replaceable parts conform to FAA-G- 2100, Sec. 3.3.5	CB2	A	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0277.0	3.3.6	ITWS designed iaw FAA-G- 2100, Sec. 3.3.6	CB2	A	Q
SSS-0278.0	3.3.7	ITWS meet requirements specified in DoT/FAA/ND-95/10.	BA1C3B3	T, A	K
			BA1C4B3	T, A	Q
SSS-0279.0	3.3.7.1	All ITWS components meet requirements of FAA-G- 2100, Sec. 3.3.7, as tailored by FAA-G- 2100, Appendices I and V	CB2	A	Q
SSS-0280.0	3.3.7.2	Organization of information on display configurable by user.	BA1C4B3	D	Q
			CD2	D	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0281.0	3.3.7.3	SD contain region that cannot be obscured and is always displayed for Display Configuration, Product Status Buttons, and Alert Products	BA1C4B3	D	Q
			CD2	D	N
			DA2	D	N
			EA2	D	N
			FA2	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0282.0	3.3.7.3	SD contain region for selective display of graphic windows, text windows and dialog boxes	BA1C4B3	D	Q
			CD2	D	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0283.0	3.3.11	Each ITWS PG and SD processing resource meet listed reserves while ITWS ingesting and processing, w/o performing load shedding, Government furnished worst case weather scenario	BA3	T	Q
			CB1	T	N
SSS-0284.0	3.3.11	ITWS monitor CPU and memory reserve.	BA1C3B3	D	K
			CB1	D	K
			CD2	D	Q
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0285.0	3.3.11.1	ITWS have CPU reserve of at least 50%.	BA3	T, A	Q
			CB1	T, A	N
			CD2	T, A	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
SSS-0285.0	3.3.11.1	ITWS have CPU reserve of at least 50%.	DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0286.0	3.3.11.2	ITWS have memory reserve of at least 50%.	BA3	T, A	Q
			CB1	T, A	N
			CD2	T, A	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
SSS-0287.0	3.3.11.3	ITWS have disk storage reserve of at least 50%.	BA3	T, A	Q
			CB1	T, A	N
			CD2	T, A	N
			DA2	D	N
			EA2	D	N
			FA2	D	N
TD1-0002.1	3.1[2]	Interface shall not interfere with operation of TDWR.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD1-0002.1	3.1[2]	Interface shall not interfere with operation of TDWR.	EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD1-0004.1	3.2.a	Two sides of interface provide for communications between application process and Data Link.	CD1	D	K
			DA1A	D	K
			DA1B	D	Q
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD1-0004.2	3.2.b	Interface supports message flow between TDWR RPG and ITWS.	CD1	D	K
			DA1A	D	K
			DA1B	D	Q
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD1-0011.0	3.2.1.3.3	Message direction from TDWR RPG to ITWS IAW Table 3-I.	CD1	D	Q
TD1-0012.0	3.2.1.3.4	Frequency of transmission IAW Table 3-I	CD1	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD1-0014.1	3.2.1.4.a	All messages transmitted in the order submitted.	CD1	D	Q
TD1-0014.3	3.2.1.4.c	Bit error rate be less than 0.0001%.	CD1	T	Q
TD1-0014.4	3.2.1.4.d	Interface meets max. transfer time constraint specified in Table 3-I.	CD1	D	Q
TD1-0014.5	3.2.1.4.e	Throughput of interface meets 80% of T1 bandwidth (1.554 Mbps).	CD1	T	Q
TD1-0015.0	3.2.1.5	ITWS checks all messages for proper type, length, and content.	CD1	D	Q
TD1-0016.0	3.2.1.6	Interface summary IAW Table 3-II	CD1	D	Q
TD1-0024.1	3.2.2.7[2]	Physical layer requirements IAW ISO 8802.3	CD1	I	Q
TD1-0024.2	3.2.2.7[3]	Interface able to support transmission speeds of up to 10 Mbps.	CD1	A,D	Q
TD1-0027.0	3.3	Physical requirements support the functional requirements of ISO 8802-3.	CD1	D	K
			DA1A	D	Q
			DA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD1-0027.0	3.3	Physical requirements support the functional requirements of ISO 8802-3.	EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD1-0029.0	3.3.1.1	Ethernet AUI (15-pin) connector used to interface with TDWR Base Data Ethernet port at TDWR.	CB1	I	K
			DA1A	I	Q
			EA1	I	N
			FA1A	I	N
TD1-0030.0	3.3.1.2	AUI (15-pin) shield cable used with markings at both ends.	DA1A	I	Q
			FA1A	I	N
TD1-0031.0	3.3.1.3	Grounding IAW FAA-G-2100f, Section 3.1.2.7.	CB1	I	Q
			DA1A	I	N
			EA1	I	N
			FA1A	I	N
TD1-0032.0	3.3.1.4	Fasteners equipped with retainers to prevent loss when unmated.	CB1	I	Q
			DA1A	I	N
			EA1	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD1-0032.0	3.3.1.4	Fasteners equipped with retainers to prevent loss when unmated.	FA1A	I	N
TD2-0002.1	3.1[2]	Interface shall not interfere with operation of TDWR.	CD1	D	K
			DA1A	D	Q
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0004.1	3.2.a	Two sides of interface achieve interoperability and compatibility using ISO OSI Reference Model IAW FAA-STD-039a.	CD1	I,A	Q
TD2-0004.2	3.2.b	Interface supports bi-directional message data flow between TDWR and SD.	CD1	D	K
			DA1A	D	K
			DA1B	D	Q
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0005.0	3.2.1	Application Process provides the dissemination of products between TDWR and SD.	CD1	D	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0005.0	3.2.1	Application Process provides the dissemination of products between TDWR and SD.	DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0006.0	3.2.1.1	Application Process provides dissemination of terminal wind shear, microburst, and precipitation products.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0007.0	3.2.1.2	Interface used to transfer the following messages between TDWR and SD: LLWAS and TDWR weather products, Display Config. and Status Info.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0011.0	3.2.1.3.3	Direction of message between TDWR and SD IAW Table 3-I.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0012.0	3.2.1.3.4	Frequency of transmission between TDWR an SD IAW Appendix A.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0013.0	3.2.1.3.5	Acknowledgment and retransmission IAW ISO 7776.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0015.0	3.2.1.4.1[1]	Order the data is transmitted is based on message priority IAW Table 3-I.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0015.1	3.2.1.4.1[2]	Message priority have one of two values, low or high.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0015.2	3.2.1.4.1.a	Microburst and Gust Front products are transmitted with high priority.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0015.2	3.2.1.4.1.a	Microburst and Gust Front products are transmitted with high priority.	FA1B	D	N
TD2-0015.3	3.2.1.4.1.b	All other products and messages use low priority.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0019.0	3.2.1.4.5	Bit error rate be less than 0.0001%.	CD1	T	Q
TD2-0020.0	3.2.1.4.6	Interface meets max. transfer time constraint specified in Appendix-A.	CD1	T	Q
TD2-0021.0	3.2.1.4.7	Throughput of interface meets 80% of default signaling rate IAW section 3.2.2.7.1.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0022.0	3.2.1.5	TDWR and SD checks all messages for proper type., length, and contents,	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0023.0	3.2.1.6	Interface Summary IAW Table 3-II.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0024.0	3.2.2	OSI seven layer protocol stack outline in ISO 7498 implemented IAW FAA-STD-039a.	CD1	A	Q
TD2-0031.0	3.2.2.6.1	Interface supports HDLC combined station, point to point, two way simultaneous, and nonswitched config.	CD1	D	Q
			DA1A	D	N
			DA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0031.0	3.2.2.6.1	Interface supports HDLC combined station, point to point, two way simultaneous, and nonswitched config.	EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0032.0	3.2.2.6.2	Interface operates in the HDLC ABM and two-way simultaneous modes.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0033.0	3.2.2.6.3	Interface implements basic BAC with option 2 IAW ISO 7809.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0034.0	3.2.2.6.4	Data link provides following single link parameters and variables IAW Table 3-III.	CD1	T	Q

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0034.0	3.2.2.6.4	Data link provides following single link parameters and variables IAW Table 3-III.	DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0034.1	3.2.2.6.4.a	Parameter values configurable via adaptive data.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0034.2	3.2.2.6.4.b	N1 supports a max. value of 1,024 octets plus address length, control and FCS fields.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0035.0	3.2.2.6.5	Data link address fields provide single octet addresses as follows.	CD1	D	Q
TD2-0035.1	3.2.2.6.5.a	TDWR address 00000001 binary.	CD1	D	Q
TD2-0035.2	3.2.2.6.5.b	SD address 00000011 binary.	CD1	D	Q
TD2-0036.0	3.2.2.7	Physical layer comply with functional and physical requirements of EIA-232D.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0037.0	3.2.2.7.1	Signaling rate for interface capable of operating min. of 9.6 Kbps.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0037.1	3.2.2.7.1[2]	Default setting is 9.6 Kbps.	CD1	T	Q
			DA1A	D	N
			DA1B	D	N
			EA1	D	N
			FA1A	D	N
			FA1B	D	N
TD2-0038.0	3.2.2.7.2[1]	Pin assignment IAW EIA-232D.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
TD2-0038.1	3.2.2.7.2[2]	TDWR and SD configured as DTE.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0042.0	3.3.1	All electrical power/electronic requirements IAW FAA-G-2100F, section 3.1.2.7.	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
TD2-0043.0	3.3.1.1	Connectors are DB-25 (RS-232D).	CD1	I	Q
			DA1A	I	N
			DA1B	I	N
			EA1	I	N
			FA1A	I	N
			FA1B	I	N
TD2-0044.1	3.3.1.2.a	Cable lengths consistent with and adequate for each physical system config.	DA1A	I	Q
			FA1A	I	N
TD2-0044.2	3.3.1.2.b	Cable shall be twisted pair with sufficient number of conductors to implement all necessary interface functions.	DA1A	I	Q
			FA1A	I	N

Table 30-3 System Requirements Allocation Matrix (SRAM)

SeqNo	ParaNum	Gist	Test ID	Test Method	Test Effort
TD2-0044.3	3.3.1.2.c	Cables have markings at both ends	DA1A	I	Q
			FA1A	I	N
TD2-0045.0	3.3.1.3	Grounding and shielding IAW EIA-232D.	DA1A	I	Q
			DA1B	I	N
			FA1A	I	N
			FA1B	I	N
TD2-0046.0	3.3.1.4	Fasteners equipped with retainers to prevent loss when unmated.	CD1	I	Q
			DA1A	I	N
			EA1	I	N
			FA1A	I	N

This page intentionally left blank.

40 APPENDIX D - TEST BREAKOUT MATRICES (TBMS)

40.1 TBM Description

The TBM identifies requirements to be verified in a given single test. Each test grouping is identified by its test identification number described in Table 40-1, sorted by the subtest and the unique requirement sequence number. Sequence number prefixes are described in Table 40-2.

Table 40-1 Test Event Matrix

Test ID	Name	Phase	Subphase	Formal	Plan
G1	Software Engineering Environment FAT	DT&E	FAT	FSEE	A13016
G2	Software Engineering Environment SAT	DT&E	SAT	FSEE	A13016

Key

Test ID: Unique alphanumeric designation to identify a test event.
Name: Name of the test event.
Phase: Major test phase — DT&E - Development Test and Evaluation
PAT&E - Production Acceptance Test and Evaluation
OT&E - Operational Test and Evaluation
Subphase: Grouping of tests within a Phase — DQT, FQT, FAT, SAT, Contractor's Acceptance Inspection (CAI), or SEE.
Formal: Indicates the formalism and type of test event as follows:
F - Formal
SEE - S/W Engineering Environment
Plan: Identifies the CDRL of the associated test plan for each test event.

Table 40-2 SeqNo Cross Reference

SeqNo Prefix	Requirement Document Name	Document Number
SSS	System/Segment Specification	A12006

The columns of the TBM are described as follows:

1. **SeqNo** - A unique alphanumeric sequence has been assigned to each shall requirement.

2. **Cross Ref** - This is the paragraph cross-reference number followed by the shall number in brackets where applicable.

3. **Gist** - The requirement's text, an abridged version, or descriptive comment is included to assist the reviewer.

4. **Test Method** - Indicates the method by which each requirement will be verified. Valid test methods include:

A - Analysis

Software analysis encompasses the processing of accumulated results and conclusions to provide proof that the verification of requirements has been accomplished. The analytical results may be composed of interpretation of existing information or derived from lower level tests, demonstrations, analyses, or examinations.

D - Demonstration

The demonstration verification method is used to indicate a general “pass/fail” condition.

Software demonstrations determine compliance with requirements (e.g., the proper response at a site as a result of a specified interrogation or command to be processed by the program) through observation of functional operation. Demonstration is used primarily for activities where data gathering is not appropriate, such as display image verification.

I - Inspection

Software inspection is a nondestructive examination that includes review of software source and object listings to verify compliance with software documentation, requirements, and coding standards, as well as verification of the implementation of required algorithms. Software inspection will not incorporate use of laboratory equipment or procedures to determine compliance with requirements.

T - Test

Software testing employs technical means, including evaluation of functional operation by use of special equipment or instrumentation and/or simulation techniques, to determine compliance of the system with requirements. Data derived from software testing is reduced for analysis of software/system performance under the test specified.

X – Not Applicable

Formal test and evaluation is not required.

5. **Test Effort** - Identifies a performance standard that each test phase sub-level must achieve. Provided to assist the reviewer in determining at what point in time during test and evaluation a requirement is considered fully qualified. These performance standards are defined as follows:

K - partial verification. Complete verification will occur in conjunction with other tests, demonstrations, inspections, and/or analyses.

Q - full verification. The verification of the requirement is completed during associated tests, demonstrations, inspections, or analyses.

N - functional verification. A reverification of the basic requirement at a higher level after full verification has been completed. Usually will occur at SAT or follow on production verifications.

This page intentionally left blank.

Table 40-3 Test Breakout Matrices (TBMs)

TestID G1 Subtest 1

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	A, T	Q
SSS-0188.0	3.2.1.3.1.2	Computers have memory, storage, computational, and i/o capacity sufficient to	A, T	Q
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	Q
SSS-0192.0	3.2.1.3.1.5.2	SEE include read/write mass storage, with capacity to store all SEE application	A, T	Q
SSS-0193.0	3.2.1.3.1.5.3	SEE include at least one printer unit, with minimum printing rate of 600 lines (	A,I	Q
SSS-0195.0	3.2.1.3.1.6	SEE include CPU, i/o device, and memory resources required for expansion of	A	Q

Table 40-3 Test Breakout Matrices (TBMs)

TestID G1 Subtest 2

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	A, T	Q
SSS-0188.0	3.2.1.3.1.2	Computers have memory, storage, computational, and i/o capacity sufficient to	A, T	Q
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	Q

Table 40-3 Test Breakout Matrices (TBMs)

TestID G1 Subtest 3

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	A, T	Q
SSS-0188.0	3.2.1.3.1.2	Computers have memory, storage, computational, and i/o capacity sufficient to	A, T	Q
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	Q

Table 40-3 Test Breakout Matrices (TBMs)

TestID G1 Subtest 4

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	A, T	Q
SSS-0188.0	3.2.1.3.1.2	Computers have memory, storage, computational, and i/o capacity sufficient to	A, T	Q
SSS-0189.0	3.2.1.3.1.3	Operational software compilation execute at average rate of at least 60 lines of	A, T	Q
SSS-0190.0	3.2.1.3.1.4	20% degraded timeliness for each activity allowed when two types of activities,	A, T	Q
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	Q
SSS-0194.0	3.2.1.3.1.5.4	ITWS SEE include support equipment necessary to develop, maintain, test, ana	A, I	Q

Table 40-3 Test Breakout Matrices (TBMs)

TestID G2 Subtest 1

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	T	N
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	N
SSS-0192.0	3.2.1.3.1.5.2	SEE include read/write mass storage, with capacity to store all SEE application	D	N
SSS-0193.0	3.2.1.3.1.5.3	SEE include at least one printer unit, with minimum printing rate of 600 lines (	I	N

Table 40-3 Test Breakout Matrices (TBMs)

TestID G2 Subtest 2

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	T	N
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	N

Table 40-3 Test Breakout Matrices (TBMs)

TestID G2 Subtest 3

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	T	N
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	N

Table 40-3 Test Breakout Matrices (TBMs)

TestID G2 Subtest 4

SeqNo	Cross Ref	Gist	Test Method	Test Effort
SSS-0187.0	3.2.1.3.1.1	ITWS PSF SEE support computers have capacity for developing, testing, and e	T	N
SSS-0191.0	3.2.1.3.1.5.1	SEE include at least 4 interactive video display terminals for control and execut	D	N
SSS-0194.0	3.2.1.3.1.5.4	ITWS SEE include support equipment necessary to develop, maintain, test, ana	I	N